

# Life Insurance

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## Preface

This book is an exposition of the principles and practices of sound life insurance, sufficiently complete to give a clear conception of the business as a whole but not so exhaustive as to be of use only to the specialist. Its purpose is to present a practical and nontechnical explanation of this business to meet the requirements of college students, of employees in life-insurance companies both in the home office and in the field, and of other students of the subject.

The life-insurance business is far from static. Changes in methods and practices are occurring continuously. New developments are frequent. In these circumstances, a textbook is likely to become out-of-date in important respects so that periodical revision at intervals of a few years is desirable and, in fact, necessary.

In preparing this edition, an effort has been made to simplify certain parts of the text which have proved difficult for some readers. This has resulted in substantial rewriting and shortening of the discussion of the more technical topics. Thus the former chapter "Modified Reserve Systems" has been greatly condensed and has been combined with the chapter "The Reserve." The chapter in previous editions "The Annual Statement," which dealt almost exclusively with the Convention Blank, has been replaced by a new chapter, "Financial Statements," which deals with the subject more generally and includes a discussion of the usual types of financial statements included by the companies in their annual reports to policyholders. The chapter "Fraternal Life Insurance" has been added, replacing the short reference to this subject in previous editions. A new feature of this edition is the addition of a set of review questions at the end of each chapter.

The author gratefully acknowledges the assistance of friends in the insurance business who have reviewed sections of the book dealing with their particular fields. Special thanks are due to Richard F. F. Nichols, investment vice president of Teachers Insurance and Annuity Association of America; Harold A. Garabedian, vice president and actuary, and Morris Pike and E. A. Green, vice presidents, all of John Hancock Mutual Life Insurance Company; Clyde S. Casady, executive vice president of Savings Bank Life Insurance Council of Massachusetts; and John J. Nietman, Jr., and Paul H. Walker, assistant counsel of the Life Insurance Association of America.

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# Fundamental Principles

Every plan of insurance is, in its simplest terms, merely a method of spreading over a large number of persons a possible financial loss too serious to be conveniently borne by an individual. Such a "loss" may be caused, for example, by the destruction of property, as in fire insurance; or by temporary loss of earnings, as in health insurance; or by the permanent cessation of earning power through death, as in life insurance. These are simple illustrations. In practice there are many extensions and elaborations of the insurance idea, particularly in the field of life insurance, most of which will be described later in this book.

**Cooperation.** The first and most essential feature of every insurance plan, of whatever kind, is the cooperation of large numbers of persons who, in effect, agree to share the particular risk against which insurance is desired. This is true for two reasons: (1) so that the individual shares of any loss which is incurred may be relatively small and (2) so that violent fluctuations in the loss experience from year to year may be avoided. Such a group of persons may be brought together voluntarily, through advertising (by the organizer of the plan), or, as in most cases, by the personal solicitation of the agents of insurance companies.

At one time insurance could be obtained only by applying to individual underwriters.<sup>1</sup> These underwriters guaranteed to make good out of their own capital any loss which was incurred, subject to whatever limitations of amount or time were agreed upon.

<sup>1</sup> The name arose from the fact that each individual who took any part of the risk wrote his name "under the contract" and was said to have "underwritten," or guaranteed, the insurance.

Usually a number of underwriters shared the risk when the amount involved was considerable. It is clear that under this plan some danger exists that the underwriters might be unable to make good in event of loss, even where a group of several had shared the risk. Sometimes that has proved to be the case, but under favorable conditions such a plan of insurance is quite feasible when applied for short periods to risks of a temporary character such as are found in fire or marine insurance or to many of the other miscellaneous kinds of hazards which are generally called "casualty" risks. It is, in fact, the plan of operation of "London Lloyd's," the members of which are the underwriters who undertake, singly or in combination, to grant insurance against such temporary risks. By insuring or underwriting a large number of different risks an average experience is secured, and the necessary "cooperation of large numbers" is obtained.

Such a method is not suitable, however, to any form of risk which is to be covered over a period of years and which involves the payment by the persons insured of considerable sums over a long time and, as in the case of life insurance, the accumulation of substantial funds in the hands of the insurer. Such forms of insurance require some more permanent form of organization and a much greater degree of supervision and control over the funds on hand. In other words, there must be some kind of association of policyholders; this usually takes the form of an insurance company, which may be organized either on a mutual or on a stock basis, as explained later.

**The Insurance Principle.** The basic principles involved in a cooperative insurance scheme can be seen very clearly by considering first a simple form of insurance such as fire insurance. The application of these principles to the more complicated problems of life insurance can then more readily be understood.

Let us suppose that in a certain community there are 1,000 houses each of which is worth \$5,000. If one of these houses is destroyed by fire, the owner, if not insured, suffers a loss of \$5,000. The probability, *in any particular case*, that a fire will occur during, say, a year is small. On the basis of experience it is likely that not more than one or perhaps two fires will take place in the whole

community in that time. In other words, there is a very small chance, so far as each homeowner is concerned, of a serious loss; but so far as the community is concerned it is likely that such a loss will be suffered by someone, or perhaps more than one, but no one can say in advance who the unlucky ones will be.

Under these circumstances it is evidently to the advantage of all the 1,000 homeowners to agree that if a fire occurs the loss will be equally divided among all instead of being borne entirely by the one whose house happened to burn down. If, then, a fire occurs, everyone will be called upon to pay \$5 or, if two fires occur, \$10, and so on. The result is that each person has substituted a small but probable loss for the possibility of a large one. He is relatively "sure" of what he has to pay and is, in fact, *insured*.

An arrangement such as that just described would constitute a *mutual fire-insurance association* of a very simple character. Fire-insurance companies, instead of making assessments each time a fire occurs, fix a *premium* in advance determined on the basis of previous experience. Each person insured pays this fixed premium. If the premium proves to be more than sufficient, the excess represents profit to the stockholders of the company, if it is a stock company, or is returned to the policyholders as a *dividend*, if the company was organized on the mutual plan, i.e., without stockholders. Similarly, if the premium is *less* than sufficient, the stockholders or policyholders, as the case might be, will stand the loss.

Before we pass to life insurance there are one or two points which should be noted in connection with the foregoing illustration of the operation of the insurance principle.

**Large Numbers.** We have said that the essential feature of an insurance plan is the cooperation of *large numbers* of persons for the purpose of sharing a risk common to all. While the cooperation of a *small* number of persons in the manner described above could be described as insurance it would actually perform the function of insurance only to a limited extent and the plan might prove to be unworkable. Thus, in the event of a loss, the individual shares would be relatively large and possibly more than some of the members could conveniently pay. Furthermore, where the number in-

sured is small, the annual cost to each member is very likely to fluctuate considerably from year to year. In some years no losses will be incurred, while in other years there might be several losses, resulting in an abnormally high cost in such years.

From a practical standpoint it is necessary that the number of those insured should be large enough that the accidental fluctuations in the annual numbers of losses will not cause impracticable variations in the amounts of the shares of the members. In other words, the numbers insured should be sufficiently large to yield an approximately *average experience* from year to year. Accidental fluctuations in the annual number of losses or "claims" cannot, of course, be entirely eliminated, but the larger the number insured the smaller will be the annual fluctuation from the average experience. In insurance companies which have many thousands of persons insured, the number of losses which will occur each year can be estimated in advance quite closely on the basis of past experience.

**Equality of the Risk.** Another point to be noted is that where all those insured pay the same premium or assessment the assumption is necessarily involved that the risk is substantially equal in every case. If this were not so, some adjustment of cost between different policyholders or members would be necessary. For example, in the fire-insurance illustration outlined above it is assumed that every house is equally likely to burn down. If some of the houses were built of stone or brick and others were of frame construction this would not be true, and therefore separate classifications would have to be formed taking into account the different kinds of risks. It will be seen that the same thing is true in life insurance because of the different ages of the persons insured, their occupations, their health or physique, and many other factors which affect the probability of death.

**Value of Insurance Protection.** It will be seen also that, while all pay premiums, very few, relatively, collect claims, i.e., have losses, in any particular year. However, all have had the benefit of *protection* against loss. A policyholder, or member who did not have a loss, cannot claim that he has had no benefit and that he should therefore get his premium back. If the premiums of those

whose houses were not burned down were to be refunded, the company or association would be unable to pay for the losses which had occurred. Perhaps this may seem too obvious even to require mention; but, as a matter of fact, in life insurance it is a very common thing for a terminating policyholder to claim that he has had no benefit from his insurance because, as he says, "I did not die, and my policy has therefore cost the company nothing." The fact is, of course, that under any such insurance scheme as has been discussed every policyholder or member receives something of definite money value which has cost the company something. This is the *protection or insurance* which he has had and which he would not have had if he had not undertaken to pay his premium. It will be seen later that the cost of this insurance protection for those who do not die is a most important element in the financial operation of a life-insurance company or, in fact, of any kind of insurance company. The whole basis of insurance is that *all* who are insured must share the losses which are incurred.

**Application to Life Insurance.** The principle of loss sharing by the cooperation of large numbers can be applied to insurance against the risk of death in the way illustrated above for insurance of houses against fire.

A simple case would be where insurance was desired for 1 year and where all those to be insured were of the same age and health and otherwise had the same prospects of longevity so that each person should pay the same premium, or share of the cost. In such a group it would be possible to agree that a specified amount of insurance would be paid by making an assessment on each member whenever a death occurred. This would be "assessment insurance," a plan the practical application of which is exceedingly limited for reasons which will be apparent later. If the insurance in question were furnished by a life-insurance company, as would almost invariably be the case, the company would charge each person to be insured a premium, payable in advance, based on the probable cost of the insurance as indicated by past experience. If the premium proved to be more than sufficient, the excess would be profit for the company's stockholders or, in a mutual company, would be refunded to those who were insured. If it was less than

sufficient, the company would have to stand the loss. Usually premium rates are made sufficiently high virtually to eliminate the possibility of loss.

As just stated, the basis upon which the company fixes the amount of the premium is past experience, which is tabulated in convenient form in a *mortality table*.<sup>2</sup> The mortality table shows the proportion of persons at each age who die within a year. This proportion is the *rate of mortality* for the particular age in question. A number of mortality tables have been constructed on the basis of the experience among insured lives. For purposes of illustration we may use the Commissioners' 1941 Standard Ordinary Mortality Table,<sup>3</sup> which shows the rates of mortality given in Table 1-1.

TABLE 1-1. C.S.O MORTALITY RATE

Number dying within 1 year out of each 1,000		Number dying within 1 year out of each 1,000	
Age		Age	
20	2 43	60	26 59
30	3 56	70	59 30
40	6 18	80	131 85
50	12 32	90	280.99

An examination of this table will show that the cost of 1 year's insurance at, say, age thirty, will be about \$3.56 for each \$1,000. Of course, in practice it would be necessary to add something for the expenses of operating the business. On the other hand, since the premiums are always paid in advance while death claims are spread over the year, some allowance may be made for interest earned. At present we need not concern ourselves with these practical details but may consider only the amounts payable as death claims. If, then, past experience happened to be exactly repeated, the death claims would be exactly paid for by the premiums.



**Yearly-renewable Term Insurance.** If, now, the survivors of those who applied for insurance for 1 year at age thirty desire to continue the arrangement for another year, it is necessary only for each to pay another premium based on the death rate at age thirty-one instead of age thirty. The premium for the second year's insurance will be slightly more than for the first year since the death rate increases as the age increases, as can be seen from the extract from the mortality table given in Table 1-1.

A considerable amount of life insurance is transacted on this *yearly-renewable-term* plan, particularly *group insurance*<sup>4</sup> and *re-insurance*, i.e., the insurance of excess amounts by one insurance company in another. The plan is suitable for these purposes but, as will be seen later, has important practical limitations when used in the ordinary way by individuals. The contract, or "policy," issued by the company to the person insured under this plan provides for insurance for a specified number of years and contains a schedule of the successive premiums to be paid, which, as explained above, increase each year. This plan provides the simplest form of life insurance. We shall return to a further consideration of this method of insurance, but before doing so it is desirable briefly to consider *assessment insurance*.

**Assessment Insurance.** Many attempts have been made to provide insurance on the basis of collecting an assessment from each person insured whenever a death occurs. The yearly-renewable-term plan is very similar in its nature to such an assessment plan. On the yearly-renewable-term plan, an annual premium based on past experience at the respective attained ages is collected from each member *in advance* instead of assessments based on actual *current* experience and payable *throughout* the year. If the assessments payable by the respective persons insured under an assessment plan were determined in proportion to the actual death rates at the several attained ages of the members during each year, the resulting costs would be about the same under both plans and there would be no fundamental difference between them.

The fact is, however, that in most assessment plans the assessments have not been made in proportion to the death rate. Some-

<sup>4</sup> Group insurance is explained in Chap. 14.

times death claims have simply been divided equally among all members without any reference to age. In other cases, where it was realized that a member's assessment ought to bear some relation to his age, various incorrect rules have been adopted, such as, for example, making the assessments in proportion to the death rate at the member's age at the time of his entry into the plan and without any subsequent adjustment for increase in age.

The general idea behind the plan of equal assessments for all members, irrespective of age (where any realization existed of the importance of taking age into account), was that if a sufficient flow of new members at low ages were obtained the average age of the whole group would remain about the same. It was assumed, erroneously, that, under these circumstances, the total death rate would not increase, so that the annual assessments would remain at about the same figure each year.

This is a fallacy. It is not true that if the average age of all the members does not increase the number of deaths or, rather, the total death rate will not increase. This can easily be seen from the following simple illustration, where, again, the C.S.O. Table is used as an indication of probable deaths.

TABLE 1-2. PROBABLE DEATHS C.S.O. TABLE

Age	Number of Members	Death rate per 1,000	Probable number of deaths
40	1,000	6 18	6
20	1,000	2 43	2
60	1,000	26 59	27

It will be seen from Table 1-2 that, in a group of 2,000 persons of whom 1,000 are age twenty and 1,000 age sixty and in which the average age is, therefore, forty, there will be about 29 deaths in a year, or 14.5 per 1,000, as compared with 6 per 1,000 in a group all aged forty. This shows that two groups having the same average age will not necessarily have the same mortality rate. The mortality rate will, in fact, depend on the distribution by age in the group.

Since most of these associations commence operations with a great preponderance of young members, the average age is practically certain to increase. Even if for a time it does not—because of a very large influx of new members—the total death rate will certainly increase when members begin to reach the higher ages. Assessments will then have to be increased. Experience shows that whenever this happens some of the younger members will drop out, while fewer new members will be obtained. This will cause a further and more rapid increase in the total death rate and therefore in the assessments, and sooner or later it will be impracticable to continue.

The assessment plan of insurance does not merit more extended consideration. At one time it was widely believed in, and many fraternal societies and other similar organizations attempted to provide insurance in that way. Such plans have collapsed, or a complete reorganization on a sound basis has been effected, usually involving hardship to the older members, who found themselves faced with much higher costs. It is pretty generally understood now that no plan of life insurance which does not recognize that the actual cost to each member must be determined on the basis of his *attained age* can continue to operate except for a limited period.<sup>5</sup>

If assessments were properly graded by attained age, such a plan might, *in theory*, be operated indefinitely. It would then be equivalent to a yearly-renewable-term plan.

**Limitations of the Yearly-renewable-term Plan.** If Table 1-1 is referred to, it will be seen that, if any provision for expenses is omitted, the cost of insurance on the yearly-renewable-term plan will be (on the basis of the table of mortality used) about \$2.50 per \$1,000 at age twenty, about \$6 at age forty, and about \$27 at age sixty. The cost increases every year as the age increases. The increase between one age and the next is at first very small but accelerates with advancing age. The increase in cost per \$1,000 between ages thirty and thirty-one is, in fact, only \$0.17; between sixty and sixty-one it is \$2.19; between seventy and

<sup>5</sup> In certain states the organization of new assessment life-insurance associations is not permitted.

seventy-one it is \$4.97. The cost if continued to old age would be about \$40 at age sixty-five, \$89 at age seventy-five, and \$194 at age eighty-five for each \$1,000 of insurance. The amount paid in any year is simply the proper share of the death claims in that year according to each person's age. Everything that has been paid in previous years has been used to pay the claims for those who died, and every year the insurance is, in effect, a new transaction.

Under this plan, if it were continued without limitation, many and eventually all of the older policyholders would drop out because they would be unwilling or unable to pay the rapidly increasing premiums. There would also be a tendency for any who were in bad health to continue their insurance as long as possible in spite of the high cost, while those in good health would be more likely to give it up. This situation would further accelerate the increase in cost since the *adverse selection* by both healthy and unhealthy lives (the former tending to withdraw and the latter to continue) would be likely to increase the mortality rate over that provided for. Thus, from the point of view both of the company and of the policyholders, the yearly-renewable-term plan, while feasible for insurance covering a limited period, is not practicable for insurance extending to the higher ages or for permanent, i.e., whole-of-life, insurance although *theoretically* there is no reason why it cannot be carried out to the limit of life. Consequently those companies which offer insurance on this plan (and many do) invariably place a limit on the period during which the insurance may be renewed. Usually, yearly-renewable term insurance is not continued beyond age sixty or, at most, age sixty-five. Exceptions, as already mentioned, are reinsurance and group insurance. In these cases, because the element of *selection* (to continue or discontinue) by the person insured is virtually eliminated, it is feasible to continue insurance on the yearly-renewable-term plan without limit.

Most people who insure their lives desire insurance which, if necessary, may be continued until death no matter at what age that may occur. As has just been seen, a plan of insurance which involves a larger premium outlay every year has practical disadvantages even in those years when the annual increase is small. The serious practical objections to a constantly increasing cost are

avoided by the use of the *level-premium* plan. This is the plan used by all the regular life-insurance companies for most of the insurance issued on individual lives. It is the only practicable plan for whole-of-life insurance or insurance extending to advanced age.

**The Level-premium Plan.** It has been explained that, because the chance of death within a year increases with age, yearly-renewable-term premiums likewise increase each year and that eventually they increase to such an extent that no one would pay them. Some other, and more practical, way of paying for whole-of-life or long-term insurance is evidently necessary.

If a mortality table upon which to base calculations on the probable death rate is selected and if an interest rate at which the excess payments (over and above the cost of insurance) will be accumulated is assumed, one can, by a purely arithmetical process, find what *uniform*, or *level*, annual premium payable by each of the persons insured will be sufficient to meet all death claims as they occur.<sup>6</sup> A *level* premium, the same every year, is, of course, not essential, but it is the normal and usually the most suitable arrangement. Other arrangements, such as a level premium of a specified amount for a limited period followed by a higher level premium for the remainder of life, are sometimes adopted, as in the "modified-life" policies issued by some companies. Under any such "leveling" arrangement, the premiums in the earlier years will be greater than the cost on the yearly-renewable-term plan, and in the later years they will be less.

The level-premium plan, in fact, introduces an entirely new element into the scheme of operation: the invested fund formed by the excess payments. This fund is called the *reserve*, which is rather an unfortunate term since it is really not a reserve in the ordinary commercial sense implying *surplus* but is a fund which the company must maintain if it is to be able to pay all death claims and without which it would be insolvent.<sup>7</sup> Moreover, the existence of this reserve causes a radical change in the true amount and cost of insurance. Comparing a level-premium plan with a yearly-renewable-term policy of the same face amount, we note

<sup>6</sup> The process of calculating level premiums is explained in Chap. 5. For the present, it may be taken for granted.

<sup>7</sup> See p. 114, note 1.

that under the former, when a policyholder dies, the accumulated reserve on his policy will, of course, be available as part of the "face amount" payable. Consequently, as the reserve increases, the insurance, or *amount at risk* (face amount *less* reserve), decreases. Thus the increasing death *rate* is offset by a decreasing effective *amount* of insurance, and the cost is kept down to a practicable figure.

The general basis and working of the level-premium plan will be better understood if we consider a numerical example.

At age thirty-five the level premium, payable every year until death, for insurance of \$1,000 on the basis of the C.S.O. Table and assuming that the excess payments or reserve will be invested at  $2\frac{1}{2}$  per cent, is \$20.50. The death rate at age thirty-five, by this table, is 4.59 per 1,000, so that the "excess payment" in the first year is about \$16. However, by age fifty-seven the death rate has reached 21.00 per 1,000, so that the annual cost (on the yearly-renewable-term basis) is then approximately equal to the level premium and thereafter exceeds it.

Table 1-3 shows the accumulated reserve and other figures illustrating the operation of the level-premium plan:

TABLE 1-3. ORDINARY-LIFE POLICY FOR \$1,000. AGE THIRTY-FIVE. C.S.O. TABLE,  $2\frac{1}{2}$  PER CENT

Year	Attained age, beginning of year	Reserve (even dollars)	Net amount at risk	Death rate per 1,000	Cost of insurance*
1	35	\$ 16	\$984	4 59	\$ 4 52
5	39	85	915	5 81	5 32
10	44	174	826	8 04	6 64
20	54	362	638	16 65	10 62
30	64	547	453	36 58	16 57

\* In the "cost of insurance" no allowance has been made for interest during the year.

Looking first at year 1, we see that the accumulated excess payment, or reserve, at the end of the year is \$16. Consequently,

if death occurs in that year the amount to be found from the current year's premium payments (of all the policyholders) is only \$984, instead of \$1,000, and the effective "insurance" is therefore not \$1,000 but \$984. This, of course, is because the policyholder himself has made an "excess payment" of the difference. Thus the cost of insurance for each member, instead of being \$4.59 (the yearly-renewable-term rate at age thirty-five for insurance of \$1,000, omitting allowance for interest), will be \$4.52 ( $\$4.59 \times 0.984$ ).

In the same way, in the tenth year the reserve (accumulation of excess payments) on each policy has increased to \$174, and the net amount at risk has therefore fallen to \$826 (\$1,000 less \$174), so that the actual cost of that year's insurance is \$6.64 ( $\$8.04 \times 0.826$ ) as compared with \$8.04, the cost of insurance of \$1,000 on the yearly-renewable-term plan.

The effective operation of the plan becomes more striking at higher ages. At the end of 30 years the reserve has become \$547; the amount at risk (insurance) is only \$453; and the cost of insurance is \$16.57 instead of \$36.58, as it would have been if there had been no reserve, i.e., on the yearly-renewable-term plan.

**Investment in the Level-premium Plan.** It is very important to note that under the level-premium plan a policy of \$1,000 does not give actual *insurance* of \$1,000, (i.e., the company is never "on the risk" for that amount) but only of \$1,000 *less* the policyholder's own accumulated excess payments. It is thus evident, as already pointed out, that the plan is not pure insurance but rather a combination of a decreasing insurance with an increasing investment, the two amounts being computed mathematically in such a way that in any year their *sum* is equal to the "face amount" payable under the policy. Failure to grasp this simple fact has led to a great deal of misunderstanding of the level-premium plan. For example, it is often asserted by persons who do not understand the operation of the level-premium plan that, when death occurs, the company should pay the reserve in addition to the face amount of the policy. Obviously a policy under which the company paid at death the face amount *plus* the re-

serve (or plus any additional amount) would require a higher premium rate than that under which only the face amount is payable. The essence of the level-premium plan is the continual reduction in the net amount at risk, this reduction being exactly offset by the increasing investment (reserve).

The financial operation of the level-premium plan involving the accumulation of excess payments, or "reserves," is quite complicated. It is not nearly so simple to operate or to understand as the yearly-renewable-term plan, but it is the *only* plan under which it is possible to provide insurance payable at death *no matter when that may occur* without the possibility of the cost reaching a prohibitive figure.

**Further Comparison with the Yearly-renewable-term Plan.** The difference in nature and operation of these two plans may be shown in another way.

The chart on page 16 shows graphically the increasing cost of insurance of \$1,000 on the renewable-term plan and also the cost on the level-premium plan. In this illustration figures are based on the rate of mortality by the C.S.O. Table and on the assumption that reserves (on the level-premium plan) are invested at  $2\frac{1}{2}$  per cent. A study of this diagram will make clear most of the fundamental considerations involved in a comparison between the two plans and will also make apparent the limitations of the former and the advantages of the latter.

The curved line *AF* shows the increasing payments necessary at successive ages to provide insurance of \$1,000 in each year from age twenty until extreme old age. Thus at age twenty the payment required is \$2.37; at age forty it is \$6.03; at age sixty, \$25.94; at age eighty, \$128.63. The characteristic features of the curve are, first, a very low initial cost and a very slow and gradual increase until about age fifty; second, a high and rapidly accelerating cost from that point onward; and, third, a prohibitive cost at the highest ages. The straight line *BCH* represents the annual level premium, namely, the premium for an *ordinary-life* policy issued at age twenty under which \$1,000 is payable in event of death at any time. The amount of this level premium, with the same assumed death rate and interest, is \$12.49.



From age twenty to age fifty the level annual premium for ordinary life insurance issued at age twenty is higher than the premium payable on the yearly-renewable-term plan, the difference in cost in any year being measured on the diagram by the distance between the curved line and the horizontal line. After age fifty, however, the annual level premium is less than the yearly-renewable-term premium. The total excess cost on the level-premium plan in the early years, where this plan calls for a greater payment than on the increasing-premium plan, is represented in the diagram by the area bounded by *ABC*. The total excess cost on the increasing-premium plan in the later years, when that plan is the more expensive, is represented by the area *FCH*. It is evident that there is a great disparity between the respective areas and that the first is only a small fraction of the second. In other words, the small additional sums paid in the early years are offset many times by the lower payments thereafter. The two arrangements (providing the same benefit, namely, \$1,000 at death) are nevertheless exactly equivalent, the two sets of premium payments having, at the outset, exactly the same present worth.

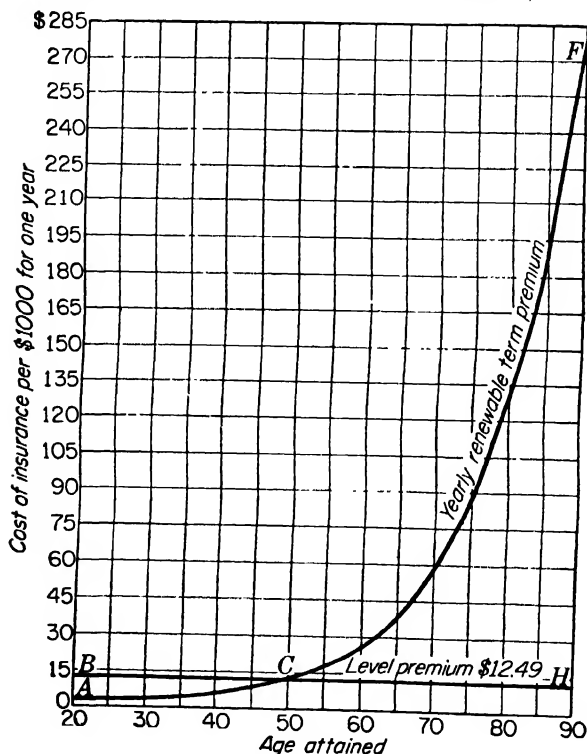
In the case of all those who die before about age sixty<sup>a</sup> (having entered at age twenty), the increasing-premium plan would be the cheaper. The fact is that, in the first half of the normal range of life, death is only a chance and, so far as any given year is concerned, a very small one. The odds are greatly against it. But if it does not occur in the first half, the probability that death will occur in the latter half of life becomes a certainty, and with the passage of time the odds turn in favor of death even within a year. Thus, comparatively speaking, the value of insurance protection is small in the first half of life but great in the latter half.

Again, the chance at age twenty of living to a very high age, say, over eighty, is comparatively small (the odds, in fact, are about 4 to 1 against it) so that it may be argued for the increasing-premium system that, although at these advanced ages the cost of insurance is very great, very few will live to pay it. Apart from the fact that the few who do so survive are financially in

<sup>a</sup> Not fifty, because the difference saved would earn interest.

an unfortunate position, this argument has little force. At age twenty, according to the table we are using, the chance of living to sixty-nine is even. Hence, one out of every two will live to pay, if he can, costs which are, as shown in the diagram, almost

COMPARATIVE COST OF INSURANCE ON LEVEL-PREMIUM AND  
RENEWABLE-TERM PLANS  
(Age at issue 20; amount of insurance \$1,000)



five times the level-premium rate, with the prospect of paying still higher rates each year.

On the level-premium plan each member is, in effect, investing a steadily increasing amount each year since he is providing out of his excess payments an increasing part of the amount payable

at death. The rapidly mounting chances of death are thus continually counteracted by the fact that each year a smaller amount is required from income to make up the difference between the fund on hand and the full sum insured.

The reader is now in a position to realize the nature of the outstanding differences between the two plans of insurance which have been discussed. The level-premium plan is not pure insurance. It requires larger payments at the beginning than are necessary for pure insurance of the nominal face amount and involves, therefore, an investment feature represented by the reserve.

The level-premium plan of insurance is the most practicable plan—in fact, the *only* practicable plan—for furnishing *permanent* or long-term protection in the case of individual lives extending to the higher ages, while yearly-renewable term insurance is suitable only for limited periods and where insurance extends only up to about age sixty-five and for such special purposes as group insurance and reinsurance. The level-premium plan is applicable not only to whole-of-life insurance but also to term insurance and other forms which are described hereafter.

### REVIEW QUESTIONS

1. Compare individual saving and life insurance as means of preparing for emergencies.
2. What is the effect of increases in the number of insureds on the operations of an insurer, other things being equal?
3. An insured outlives a 5-year-term life-insurance contract on which he has paid annual premiums and under which the insurer has incurred no loss. Has the insured received value for his premiums?
4. A group of persons agrees to share equally the payment of \$1,000 on each death of a member of the group and to accept new members who will subscribe to the agreement. Discuss the probable results of such an arrangement.
5. If the group cited in question 4 could be maintained at a constant average age, would the amount paid annually by each member remain constant?
6. Compare the yearly-renewable-term plan of life insurance and the level-premium plan.

## Stock and Mutual Companies

A life-insurance company may be organized either as a stock company or as a mutual company. Many companies, including some of the largest, which were organized as stock companies have later been "mutualized" through the purchase of the stock by the policyholders, as explained later in this chapter. Most of the largest companies in the United States (but not in Canada) were originally, or later became, mutual companies. Most of the smaller companies are stock companies.

**Stock Companies.** A stock life-insurance company is one which is organized by stockholders who subscribe the necessary funds to launch the business. It is formed primarily for the purpose of earning profits for the stockholders who own and control the company. Most stock companies issue chiefly nonparticipating policies (i.e., without dividends to policyholders); but many also issue participating policies (at higher premium rates), most of the surplus earnings from which are paid to the policyholders.

**Mutual Companies.** A mutual life-insurance company is a co-operative association of persons established for the purpose of effecting insurance on their own lives. The policyholders are the "members"—corresponding to the stockholders in a stock company. They elect the directors (or "trustees") and, in theory at least, control the management of the company. A mutual company is not formed for the purpose of making profits, and the "company" is simply the aggregation of all the individual policyholders, or members.

Mutual companies issue participating policies, which provide for adjustment of cost from surplus earnings (dividends). In the

absence of statutory restrictions a mutual company may also issue nonparticipating policies, but the holders of such policies are not members of the company. Any profit or loss from such business belongs to or is borne by the holders of participating policies.<sup>1</sup>

The expression "mixed company" has sometimes been used to denote a company which issues both participating policies and nonparticipating policies. The term has no fixed or authoritative meaning and may be applied to either stock or mutual companies. It is not a third classification. There are only two kinds of companies, stock and mutual. If the company has stockholders, it is a stock company. If it has not, it is a mutual company irrespective of the kinds of policies it issues.

There has been some question about the propriety of either a stock or a mutual company's issuing both participating and nonparticipating policies. When the New York Insurance Law was amended in 1906, domestic (i.e., New York) companies were prohibited from writing both kinds. This meant that mutual companies domiciled in New York could not thereafter issue any nonparticipating policies as some of them had been doing, while stock companies could issue either nonparticipating or participating policies but not both.

There appears to be no very good reason for this rule, which is based on the idea that if a company wrote both kinds of policies some inequity might arise between the two classes in the disposition of profits or losses. It seems reasonable that mutual companies which have the necessary organization for conducting an insurance business should be permitted to establish a "fixed-cost" department for those who prefer that plan if the participating policyholders (members) are willing to undertake the risks involved as they do (in most mutual companies) by the issue of nonparticipating annuities. Similarly, under adequate regulation, it is difficult to see any objection to the issue of participating policies by a stock company. Both classes of business are essentially the same, i.e., both are essentially mutual in character, depending on the same principle of cooperation of large numbers. Outside New

<sup>1</sup> Formerly, the issue of nonparticipating (as well as participating) policies by mutual companies was common, but this is no longer the case.

York, in the United States and elsewhere, most stock companies issue both participating and nonparticipating policies, while mutual companies generally issue only participating policies.

**Organization of Companies.** When a company is organized, funds must be obtained sufficient not only to cover the expenses of organization, including any deposit required by state or other government law, but to provide for the possibility of serious adverse fluctuations in the death rate owing to the small number of lives insured in the earlier years.

In the case of a stock company the necessary funds for launching the company are obtained from the sale of stock. Because a large part of the funds so obtained will be spent immediately and because the amount of the capital stock is a liability under state insurance laws, it is necessary to sell the stock at a substantial premium, i.e., for considerably more than its face or par value. For example, the shares of stock having, say, a par value of \$100 may be sold at \$150 each. If there are 5,000 shares, this would produce \$500,000 for the capital-stock liability and \$250,000 of cash surplus. The funds representing the capital stock, which must be retained and invested, can be used for any statutory deposit required to be made (since that will be part of the company's assets). The "surplus" is available to meet the expenses of organization and other necessary outlays, such as office rent, salaries, and supplies, until a sufficient premium and investment income is created to take care of all such expenses. Another reason why it is necessary to sell the stock at a premium is that commissions must be paid to the stock salesmen. These commissions are one of the substantial expenses of organization. The inducement to buy the stock at more than its par value is, of course, the prospect of profits sufficiently large to yield a good return on the amount invested.

The organization of a new company on the *mutual* plan presents serious, if not insuperable, practical problems because no funds other than the premiums received on the policies originally issued are available for the expenses of organization. Nearly all the mutual companies in existence today were originally organized as stock companies and were later mutualized by the purchase of

the stock with surplus funds which had been accumulated by the policyholders. There are, however, some important exceptions. The first mutual company in the United States (the Mutual Life Insurance Company of New York, founded in 1843) was organized as a mutual company. The method used was the one which has been prescribed since 1906 in the New York Insurance Law for the organization of mutual companies. Under that law, before commencing operations the organizers of the company must secure applications for insurance and the first premiums thereon from at least 500 persons for a total amount of at least \$1 million. This would seem to be an almost impossible requirement, since there are plenty of well-established companies in existence and little reason why anyone should apply and pay for insurance in a company which has not actually begun operations. Nevertheless, that was what the Mutual Life did—although at a time when there were very few companies in existence and no mutual companies. The expenses of organization are obtained from the premiums paid for the original policies issued, since each premium contains some provision for expenses. Under modern conditions, with many excellent stock and mutual companies in existence, this method of organizing a mutual company may be regarded as impracticable.

Another method which has been used in the past (chiefly by companies in the New England states) for organizing on the mutual basis is to *borrow* the funds required for organization expense. Such a loan would usually be made by the individual organizers themselves and with provision that the loan could not be called for repayment until the company had accumulated sufficient surplus to pay it off. Even when there is provision for automatic repayment of the loan when the surplus is sufficient, this method differs very little from organization on the stock plan followed by mutualization. In both cases, funds which are an obligation of the company are supplied by persons other than policyholders, and this is a debt which must be paid off before the company can be regarded as fully *mutual*.

For the reasons indicated above, no new company has been organized on the mutual plan for many years. The numerous com-

panies which have been formed in recent years are all stock companies.

The procedure in organizing a new life-insurance company is, in general, the same for both stock and mutual companies. In either case the actual organization must be carried out under the provisions of the state laws applicable to corporations, and where a special insurance law exists for the regulation of insurance corporations, as is usual, the organization must be in accordance with that law. Prior to the existence of general corporation or insurance laws, insurance companies could be organized only by a special act of the state legislature. This special act was the "charter" of the company. It comprised a statement of the powers proposed to be taken and the manner in which these powers could be exercised. Later, life-insurance companies were formed under the provisions of the general corporation law and then under special "insurance laws" relating to the formation and operation of insurance companies.

The provisions of the various state insurance laws as regards the organization of companies are similar. The necessary steps required to organize a company under the law of New York are illustrative of the general procedure. In that state a corporation composed of at least 13 persons is required. These persons first decide upon the scope of the business which they propose to undertake and upon the name of the proposed company. They then proceed to draw up the charter. The charter sets forth the name of the company, its location, the kind of business to be transacted, its powers and how they will be exercised, the method of internal government, the amount of capital (if the company is a stock company), and any other necessary particulars. The organizers must advertise in a certain manner their intention to incorporate themselves as an insurance company. They must then file with the superintendent of insurance a "certificate of intention" and a copy of the charter; when that official has recorded the certificate and approved the charter, they become a corporation. They are now ready to open the books for the purpose of receiving actual subscriptions to the capital if the company is to be a stock company or to receive applications for insurance and the premiums



therefor if the company is to be mutual, but they may not as yet issue policies.

When the total amount of the capital and surplus required by law in the case of a stock company is paid in, or when the premiums on the necessary minimum amount of insurance in the case of a mutual company have been paid in, and when the statutory deposit required to be placed with the superintendent has been made, the organization may be completed. This is done by calling a meeting at which directors are elected and, having been elected, authorize the issue of the stock or the policies as the case may be. At this meeting bylaws are adopted by the company to regulate the internal management of its affairs. The bylaws cover such matters as the duties of officers and committees, regulations on investments (subject to any legal limitations), the maximum amount of insurance to be written on any one life, the territory in which business is to be transacted, and so forth. The bylaws must, of course, be in accordance with the powers granted in the charter. The newly elected directors will then meet for the purpose of electing officers; they will also elect committees from their own number to take charge of particular departments of the general administration of the company and will delegate to such committees the necessary powers. Otherwise, action of the full board on questions of detail would be necessary. With the appointment of the officers the necessary staff may be engaged, supplies purchased, and active business begun.

**Stock Companies versus Mutual Companies.** There has been a great deal of controversy over the relative merits of stock and mutual companies, chiefly from the policyholders' point of view. In comparing these two types of companies several points should be considered. The most important (apart from the question of the problems of organization) are (1) relative security for the policyholder, (2) control, and (3) cost, each of which will be examined briefly.

*Security.* In the early stages of a stock company, the capital and surplus paid in by the stockholders furnish a guarantee of payment which is very important to the policyholders. In later years this element of security becomes less important. In most stock life-

insurance companies the capital stock, although it may amount to a very substantial sum, is eventually small compared with the total liabilities of the company. The necessity for a guarantee fund to guard against unfavorable fluctuations and losses still exists; but in both stock and mutual companies such a fund will have been accumulated after some years from the surplus earnings and miscellaneous profits of the business.

In either case—stock or mutual—the company will have become well established with an adequate surplus or “contingency fund” and with an adequate volume of insurance in force. In a mutual company all the funds will belong to the policyholders, and all profits arising from these funds and from the operations of the business, will belong to them and will be available to reduce the cost of insurance or as additional safety funds. However, it does not follow that the cost of insurance in a stock company will eventually, or in the long run, be higher than in a mutual company. There are many other factors which affect cost, such as efficiency and economy of operation. These will be discussed later.

The first life-insurance companies in both the United States and Canada were stock companies. In the United States this was the natural result of the experience under the original system of individual insurers which obtained before corporations undertook the business of life insurance. Under that system there was no adequate security. It was natural, therefore, that, when companies were first formed to do a life-insurance business, emphasis was placed on the fact that payment of claims was secured by a substantial guarantee fund represented by the capital stock.

The premium rates of the first stock companies were higher than necessary; and since experience had shown that in other branches of insurance the mutual principle was advantageous, it was natural that, in due course, companies were formed which undertook to give back a part of their profits to the policyholders. The next step was the formation of purely mutual companies without shareholders or capital stock, the permanence of the company and the broadness of its scale of operations constituting the guarantee of payment.

The question of the relative security of stock and mutual companies is largely academic. Except possibly in the early years of operation, there is no real difference between them in this respect. Fundamentally, security depends on sound and efficient management and on adequate supervision and control by governmental authorities (in the United States, by the state legislatures, and in Canada by both the provincial and dominion governments). Incompetent management, such as in the investment of the company's funds, can be and on occasion has been disastrous to policyholders, but this has been extremely rare. There may be some question of security in the case of small or recently formed companies, especially where the stock control is subject to frequent change or in states where the quality and scope of supervision are below average. On the whole, the policyholder in any well-established company, whether stock or mutual, can look forward with virtual certainty to the fulfillment of his contract by the company and need not concern himself with the question of security.

*Control.* The second point to be considered in a comparison of stock and mutual companies is the question of control and the responsibility of management to the policyholders. A stock company is owned by the stockholders. The directors and officers are appointed by the stockholders and are responsible to them and not to the policyholders. As in any other stock corporation, the actual control of the company will lie with the holders of the majority of the stock, who may be a small group or even a single individual.

Concentration of control has both good and bad features from the policyholders' point of view. It has elements of danger, since the policyholders have no voice in the management and, if those in control of the stock do not consider sufficiently the interests of the policyholders, the latter may find themselves in a disadvantageous position. For example, by unwise or even unscrupulous handling of the investment of the company's funds the security behind the policyholders' contracts may be endangered. Moreover, where control is concentrated it may pass from one person or group of persons to another so that, even though the existing owners of a stock company may be efficient and may

be managing the company with a proper regard for the interest of the policyholders, this may not continue to be the case. Such dangers are, however, largely hypothetical in the case of substantial and well-established stock companies. The fact is that, in view of the comprehensive supervision to which all life-insurance companies are subject, holders of the policies of stock companies—at any rate, of the larger companies—need concern themselves but little with the possible adverse effects of a change of ownership of the stock.

On the other hand, concentration of control has its advantages. For instance, the removal of incompetent officers can be accomplished more readily in a stock company than in a mutual company. Further, although in theory the policyholders of a mutual company own and control the company, in practice this is necessarily the case only to a very limited extent. The policyholders are numerous; they are scattered all over the country; they have no convenient means of intercommunication; the individual stake of each in the company is small. Many of them do not understand the nature of a mutual company or even know that they have the right to vote at elections for directors. The practical difficulties of taking effective action if an occasion arose for doing so might be too great to be overcome. The fact is, therefore, that in mutual companies the directors and officers, in effect, control the company. Formerly it was the custom in some of the large mutual companies to secure from each policyholder at the time his policy was issued a proxy authorizing some official of the company to vote in his behalf at all elections. These proxies were valid for a period of years, unless specifically revoked, and the officers of the company were thus able to collect a sufficient number of proxies and to hold them in reserve in case of unexpected action on the part of any group of policyholders who wished to exercise their power in a manner not agreeable to the administration.

These former methods of improperly retaining unlimited control of mutual companies and the defects of stock control have both led, on occasion, to the same result—irresponsibility on the part of those who were in charge of the actual conduct of affairs. Those who controlled the majority interest in stock companies

had no fear of policyholders and, sometimes, no regard for their wishes, while the officers of the mutual companies, although in theory accountable to the policyholders, were not really so. This lack of responsibility in the conduct of certain companies led to the celebrated Armstrong investigation in New York in 1905, as a result of which many changes in the law were made, notably in regard to the participation of policyholders in the control of mutual companies.

Stock companies are still controlled in practically the same way as in 1905. There are obvious legal objections to depriving stockholders of full control of their own property. The disadvantages of stock control which have been outlined above are sometimes guarded against, however, by providing for some limited form of participation by the policyholders in the government of the company. Thus the policyholders may have the right to elect a certain number of the directors—naturally a minority of the whole. The laws of some states also provide a means of passing from stock control to mutual control. This mutualization of stock companies is of considerable importance and is considered more fully later in this chapter.

The situation in the mutual companies has been improved by legal restrictions on the proxy system and by provision for a more active participation by the policyholders in the election of directors. It is probably true, however, that the majority of policyholders of mutual companies are ignorant of their real status and powers and take no part in the control of the company. As a rule, it is not necessary for them to do so. When an efficient and responsible administration is in power, it is not necessary that the policyholders actually participate in the management, particularly in view of the character and extent of the supervision exercised by state authorities. On the contrary, there would be serious practical objections, because of the highly technical nature of the business, if it were too easy for policyholders to interfere either individually or collectively in the management. It is sufficient that means exist whereby, if things are going wrong, the policyholders may step in and take charge of their own affairs. This is accomplished by making suitable rules for the nomination of candidates for office, by calling

frequent elections, and by enabling policyholders to get in touch with one another.<sup>2</sup>

In considering the relative merits of stock and mutual control, it is important to remember that a very large proportion of the accumulated funds of a well-established life-insurance company, whether stock or mutual, has been contributed by the policyholders and that most of these funds, such as the policy reserves, are in *equity*, the property of the policyholders. The capital stock, if any, is comparatively small in amount. It would therefore appear reasonable that the policyholders should have some voice in the management.

It may be argued that much the same state of affairs exists in the case of a bank since the greater part of a bank's assets belong, not to the stockholders of the bank, but to the depositors. The situation, however, is quite different. A depositor in a bank can at any time draw out the entire amount he has deposited and transfer it without loss to some other institution, but a policyholder in an insurance company may not be able to withdraw except at a loss and can replace his insurance in another company only if he is in good health.

*Cost.* The third point of comparison, and the one which is of most interest and importance from the policyholder's point of view, is the relative cost of life insurance in stock and mutual companies. Stock companies issue chiefly—and some issue only—nonparticipating policies, i.e., policies which do not provide for “dividends,” so that the annual cost to the policyholder is fixed by the premium rate. For the most part, mutual companies issue participating policies at premium rates higher than those of the stock companies but carrying the right to dividends, or participation in surplus earnings, which may or may not result in a lower “net cost” than in the stock company. In this respect holders of participating policies issued by stock companies are in the same position as the policyholders of mutual companies, so that, so far as cost is concerned, the comparison is between *participating* and *nonparticipating* insurance rather than between *mutual* and *stock* companies.

The advantages offered to the nonparticipating policyholder are

<sup>2</sup> See, for example, the New York Insurance Law, sec. 198.

(1) a guaranteed and fixed annual cost and (2) a lower immediate outlay as compared with the premium payable for a participating policy. Because of competition, premiums for nonparticipating policies must be as low as they can safely be made, since there are no subsequent adjustments or refunds. The premium rate must, however, for the sake of safety, be at least slightly in excess of anticipated requirements. No company can afford to charge less than the expected actual cost; and since there must be some margin of safety and for a profit to the stockholders, somewhat more than the anticipated cost must be charged. The premiums charged by mutual companies, on the other hand, are admittedly greater than necessary. Refunds are made, usually annually, based on the company's actual experience in rates of interest, mortality, and expense. The actual cost of insurance to the policyholder in a mutual company is thus measured, not by the premium charged, but by the premium less the dividend, or refund, the difference between the premium and the dividend being generally referred to as the *net cost*. These refunds, or dividends, should theoretically at least result over a period of years in a lower net cost for the participating policyholder, conditions being equal. The higher premiums charged also provide an additional margin of safety.

The much-debated question of comparative cost in stock and mutual companies is usually argued by comparing companies instead of systems. It is quite true that a particular stock company may be able, through efficient administration, economy, and skillful or fortunate investment, to provide insurance at a cost which will prove lower in the long run than in a mutual company. This is possible, but there is, in general, no reason to suppose that a stock company will be managed better than a mutual company. Unless a continued trend toward higher cost develops because of rising mortality or expense or falling interest rates, insurance on the mutual plan should be cheaper than corresponding nonparticipating insurance in two equally well-managed companies.

However, neither equality nor stability of conditions exists, so that the comparison of probable cost is more complex than may at first appear. Thus, as an illustration of unequal conditions, the rates of commission on nonparticipating insurance—at least

for the principal plans—are sometimes less, plan for plan, than those of mutual companies, and these lower rates are paid on smaller premiums. Where that is the case, a smaller amount in dollars and cents is used for that purpose in the stock company than in the mutual company. Another point is that the system of collecting larger premiums than are necessary and making annual refunds to every policyholder is a more expensive one to operate than where such complicated calculations and refunds are eliminated.

The amounts paid to stockholders as dividends are usually comparatively small in relation to the premium income of the company and in most cases have very little effect on the relative cost of insurance. Some persons undoubtedly prefer to pay a fixed premium of low amount rather than the fluctuating net costs of mutual companies, even if these should eventually prove to be less. Reductions in dividends on participating policies consequent upon the fall in interest rates in certain periods in the past have in many cases resulted in net costs under participating policies which were higher than the nonparticipating rates for similar policies issued at the same time. When, as in the 1930s and early 1940s, the interest rate has fallen, rates for *new* nonparticipating policies have been increased, but, of course, no increase can be made in the premium rates of policies already in force. In the same way, when the interest rate has risen—or when mortality rates have fallen—premium rates for new nonparticipating policies have been reduced (as in the 1950s), but such reductions do not apply to policies already in force.

**Further Comparison of Stock and Mutual Companies.** The policyholder in a stock company need not concern himself with the operation of the company so long as he is satisfied that it is in sound financial condition and is being honestly managed, whereas the policyholder in a mutual company has at all times a vital interest in the details of operation because of the effect which the character and quality of the management can have on the amount of his dividends. For example, the rate of interest obtained by the company on its investments, the amount of expense incurred, the carefulness with which the company selects



its business, and many other things all affect the cost of his insurance.

On the other hand, as already noted, the additional income from higher premium rates in a mutual company is a source of strength. There is a greater margin of safety available to meet losses or unforeseen contingencies. Insurance companies must be ready for the unexpected—which sometimes happens. Thus the influenza epidemic of 1918 temporarily increased the rate of death claims of many companies by 50 to 100 per cent. In many of the small companies whose policyholders were mostly young persons, the death claims were doubled. The financial collapse of 1929 followed by the Depression and the reduction of interest rates to a point which many would have considered virtually impossible is another illustration of the need for safety margins and the maintenance of substantial contingency funds, which must be provided out of premiums and interest earnings. It is not suggested that stock companies generally are not in a position to meet such adverse possibilities. That is by no means the case; but a mutual company with its larger premiums is, *other things being equal*, in a stronger position in that respect. In the event of a continuation of adverse conditions the stock company can increase its premium rates for new policies, but it cannot increase those of policies already in force. The mutual company can adjust the cost on all its policies.

**Mutualization of Stock Companies.** Many companies, including some of the largest, which were originally organized as stock companies have been mutualized through the purchase by the policyholders of the capital stock. The funds required for such a purchase are taken from the general surplus funds of the company when these are sufficient to provide the price acceptable to the stockholders and to leave an adequate contingency fund for the protection of the policyholders. Payments to the stockholders may be spread over a period of years.

Where, as has often been the case, a stock company has issued most of its policies on a participating basis and where, therefore, a very large proportion of its surplus funds has been derived from the premium margins on participating business, the company is essentially a mutual company. Nearly all of its assets, including

policy reserves and surplus funds, are "policyholders' money," having been derived from policyholders rather than stockholders, and are required either to meet policy liabilities (reserves) or to protect policyholders (surplus). In these circumstances, the amount of capital stock, although originally important when the company was formed and in its earlier years, is usually no longer significant in comparison with the company's total surplus or total liabilities and it is reasonable that the policyholders should, if possible, take over the ownership and control of the company.

In the case of the larger companies, mutualization has usually been decided upon for the reasons just indicated. In the case of small or, sometimes, medium-sized companies, another reason for mutualizing has sometimes been to prevent control of the company from falling into undesirable hands through a transfer of stock ownership.

The initiative in instituting proceedings for mutualizing a stock company will normally be taken by the officers of the company, who submit a plan to the board of directors. The important point is, of course, the price to be paid for each share of stock. From the policyholders' point of view the price must necessarily be limited by the amount of surplus which can be used for this purpose; i.e., the total price must not be so great as to leave the company, after mutualization, with an inadequate surplus. The stockholders, on the other hand, will naturally require a fair price in relation to the dividends which they might expect to receive, and with due consideration of the value of their rights of ownership and control and the amount of the surplus funds which have been derived from nonparticipating business.

When the board of directors has approved the plan and has determined the price to be offered to the stockholders, the plan will be submitted to the state insurance department for the approval of the commissioner or superintendent of insurance. If approved by him it will then be submitted to the policyholders and stockholders in accordance with the requirements of the state insurance law.

If the necessary majorities of policyholders and stockholders agree on the terms of purchase, the company will then proceed

to take up the stock. This may, and usually does, require some time, since, usually, some of the stockholders object to the plan for one reason or another or hold out for a higher price than the one agreed upon. This may involve litigation and delay. In the meantime the stock which has been purchased is not canceled but is transferred to trustees for the policyholders, who vote the stock on their behalf. Usually the stock which can be purchased and transferred to the trustees immediately following the action by policyholders and stockholders is a substantial majority of the total stock so that effective ownership and control are obtained by the policyholders. When all the shares of stock have been transferred to the trustees, the stock is canceled and the company thereupon becomes a mutual company.

### REVIEW QUESTIONS

1. What are the principal differences between stock companies and mutual companies?
2. Outline the general procedure in organizing a new life-insurance company.
3. State briefly the advantages and disadvantages of the stock and mutual types of companies from the point of view of (*a*) organization; (*b*) security; (*c*) cost of insurance to the policyholder; (*d*) control of the company.
4. Most of the largest and oldest companies are *mutual* companies. Most of the smaller and more recently formed companies are *stock* companies. Explain why this is so.
5. What are some of the reasons for mutualizing a stock company?
6. Outline the procedure for converting a stock company into a mutual company.

## Types of Life-insurance and Annuity Contracts

The many different kinds of life-insurance and annuity contracts issued by life-insurance companies may be broadly classified into three groups.

- (1) Standard forms of life-insurance contracts issued, generally speaking, by all or most companies
- (2) Standard forms of annuity contracts
- (3) Miscellaneous special forms of life-insurance or annuity contracts and combinations of life insurance and annuities not issued by all companies

In this connection the word "standard" is used, not in a legal sense implying uniformity of all contract provisions, but as indicating an established type of contract.

### STANDARD FORMS OF LIFE-INSURANCE CONTRACTS

The principal forms of life-insurance contracts may likewise be broadly classified under three headings.

- (1) Whole-life policies
- (2) Endowment policies
- (3) Term policies

**Whole-life Policies.** *Whole-life* policies provide insurance for the whole of life and (if not previously terminated) mature for

payment only at the death of the person insured. They include *ordinary-life*, *limited-payment-life*, *single-premium-life*, and *joint-life* policies.

*Ordinary Life.* Under the ordinary-life policy (sometimes referred to as a "straight-life" policy) premiums are payable during the whole lifetime of the insured. The ordinary-life policy may be regarded as the *basic* type of life-insurance policy. It is probable that for many years most policies issued by most companies were on this plan, but this is no longer the case.

While many applicants desire insurance which will continue until death, no matter at how high an age that may occur, the necessity of paying premiums in old age and, in many cases, after earning power has ceased is a serious practical disadvantage of the ordinary-life plan. At the lower ages at which most insurance is taken, the additional premium cost of a limited-payment-life policy (as explained below), under which no premiums are payable after a specified age such as sixty-five or seventy, is very small. A realization of this fact has led to a much wider use of long-term limited-payment-life policies and to a decreased use of the ordinary-life plan.

Another reason for the replacement of the ordinary-life by the long-term limited-payment-life policy has been the adoption of "special" ordinary-life policies (such as the "preferred-risk" or "minimum-amount" policies discussed later), the replacement being made to avoid the apparent inconsistency of offering two different kinds of ordinary-life policies at different premium rates.

Apart from the disadvantage mentioned, the ordinary-life policy is suitable for the insurance needs of the average applicant. Its terms are simple and easily understood. Its cost is lower than for other forms of insurance except term insurance, and, in view of the provisions for cash and other surrender values, for change to other plans of insurance as from original date, and for optional modes of settlement, this form will satisfy almost any requirements for life insurance. It is sometimes argued that few persons require life-insurance protection in old age and that for that reason an ordinary-life policy is not the most suitable type for the average person. It is true that the need for insurance frequently ceases

at sixty-five or seventy, but in that case the policy may be surrendered for its cash value, and the proceeds may then be converted into income or applied in some other manner. In those cases where insurance protection is required in old age it is still available under the ordinary-life form.

*Limited-payment Life.* The limited-payment-life policy provides for premium payments only during a specified number of years (or until prior death). The amount of insurance is payable as in the case of the ordinary-life policy at the death of the person insured. Formerly limited-payment-life policies were usually issued only with provision for a specified *number* of premiums, such as 10, 15, 20, 25, or 30. More recently, policies providing for payment of premiums up to a specified *age*, such as sixty, sixty-five, or seventy, have also become common. Most companies will issue limited-payment policies calling for any desired number of premiums. The greater the number of premiums payable, the more closely the contract approaches the ordinary-life form.

Reserves and cash values on limited-payment policies are, of course, greater than under the ordinary-life form (since premium rates are higher), and the effective insurance protection involved is therefore correspondingly smaller. In other words, the investment portion of the contract is increased and the insurance portion decreased. Death may occur within a period in which the amount of the insured's premium payments under a limited-payment policy has exceeded the amount of those which would have been made on an ordinary-life policy, but the comparatively long-lived policyholder may pay a great deal less on the limited-payment plan. At the time of issue the value of the limited premiums is the same as the value of the premiums for life under the ordinary-life contract. Both policies are sold on the same *price* basis—although involving different net effective amounts of insurance protection—and whether one will prove to be “cheaper” than the other in any individual case will depend on the time elapsed before death occurs. In event of surrender each policyholder receives a surrender value which takes into account the cost of the net insurance protection actually furnished. There is thus no presumptive *financial* advantage between one form and the other. Choice

depends on circumstances and personal preference. Some persons prefer the limited-payment form because there is a definite date for the termination of the premiums, while others prefer the ordinary-life form because it gives the maximum permanent protection for a given annual outlay.

*Single-premium Life.* A single-premium-life policy is simply a special case of a limited-payment policy, the number of premiums being limited to one. The effective insurance protection is, of course, substantially less than the face amount of the policy, and the investment element is correspondingly great. Such contracts are therefore purchased largely for investment purposes. Considered as an investment, a single-premium policy offers the advantages of a high degree of security, a satisfactory interest yield when the value of the insurance protection is taken into account, and ready convertibility into cash on a basis guaranteed by the company for the whole duration of the policy.

*Joint Life.* Joint-life policies provide for payment of the face amount of insurance at the *first* death of two or more persons insured. A policy payable at the *last* death of the lives insured is a *last-survivor* policy. Last-survivor policies are rarely, if ever, issued, while joint-life policies are quite common. Two, three, or even four lives may be covered by a joint policy; but, because of practical difficulties and expense, few companies are willing to issue joint policies which cover more than four lives—in fact, many companies do not go beyond two or three. Joint-life policies may be issued on the ordinary-life plan with premiums payable until the first death or on the limited-payment plan or on the endowment plan. They are practically never issued on the term plan because separate term policies on each life for the same amount would (except for long terms) usually cost very little more than a joint policy and would therefore be preferred since the insurance could be continued on the survivor after the first death.

Most joint policies are taken as business insurance, as on the lives of partners. It is doubtful whether they are suitable for such purposes in most cases. Partnerships change, and it may be difficult or impossible to make satisfactory adjustments in the insurance coverage where it consists of a joint-life policy.

The insurance ceases at the death of the first partner, and frequently new insurance arrangements would then be necessary. For these reasons it is usually better to take separate policies on each partner, division of the total premium cost being made on an equitable basis. Such an arrangement will usually be more satisfactory, particularly where the interests of the partners are of different amounts.

Joint-life policies are sometimes taken on the lives of husband and wife and, where a legitimate need for insurance exists, are suitable in such cases. The fact that two or more lives are covered under the same policy means that the "cost of insurance" is relatively high and the relation of cash values to premiums paid correspondingly low. Misunderstanding or dissatisfaction is therefore more likely under a joint policy than under separate single-life policies. The practical value of joint-life insurance must be regarded as limited.

**Endowment Policies.** An endowment policy provides for payment of the face amount either in the event of death during a specified period (the *endowment period*) or upon survival to the end of that period (the *maturity date*). Endowment policies are usually issued with premiums payable during the whole of the endowment period. They are also issued on the limited-payment or single-premium plan and on joint lives, the policy being payable, in the latter case, at the first death if that should occur prior to the maturity date.

Where the age at the maturity date is very high, an endowment policy approximates an ordinary-life or limited-payment-life policy. Thus, where the C.S.O. Table is used, an ordinary-life policy is an "endowment at age 100" (since, according to that table, no one lives beyond age 100). The endowment policies with a very high maturity age, as eighty or eighty-five, which are issued by many companies may be considered for most practical purposes as equivalent to whole-life policies.

Other endowment policies may be divided roughly into (1) those which have relatively long endowment periods and which mature at a specified age, such as fifty-five, sixty, or sixty-five, and (2) those which have short endowment periods and which



mature at the end of a specified number of years, such as 10, 15, or 20.

Policies in the first of these two classes are generally taken to combine insurance protection during the working years of life with provision for old age. The shorter-term endowment policies are more likely to be taken for their investment features or for some special purpose, such as to provide for repayment of a mortgage loan.

In the case of endowment insurance there is a greater element of investment and correspondingly less insurance protection than under whole-life forms of insurance. Where the endowment period is short the insurance involved is small in relation to the face amount. In considering any form of insurance from an investment point of view it is necessary to take into account the fact that a substantial part of each premium paid is used for insurance protection. That part is spent, not invested; it is only the balance of the premium which is invested and which should be considered in determining the yield involved.

A fallacy which is frequently met with is to calculate the "investment yield" of an endowment policy by assuming that the investment element of the premium is the difference between the endowment premium and the premium for a term policy covering the same number of years. This overlooks the differences in the insurance protection under the two contracts. Because of the increasing reserve held, on the level-premium plan, for the endowment policy, the "amount at risk" or net amount of insurance is a diminishing amount, averaging over the whole period only about half the face amount, so that much less than the regular term premium is needed to pay for the insurance involved. This erroneous method of calculation results, therefore, in interest yields which are much higher than the true yields.

The proper method of calculating the investment yield of an endowment policy would be to deduct from each premium the cost of carrying the insurance risk of that year—the insurance risk decreasing each year—and, by trial, to ascertain at what rate of interest the remainders will accumulate to the face amount of the policy at the maturity date. This would be a complicated

calculation and one which it is quite unnecessary to perform, since—in mutual companies at least—the result should be approximately the average net rate at which the funds of the company are invested.

Sometimes it is claimed that the insured could invest his money at a higher rate of interest than the company earns and that it would therefore be to his advantage to carry only term insurance and do his investing himself. In order to make a fair comparison on this basis it must be assumed that the amount of term insurance carried decreases each year, so that the total sum—insurance plus investment—available in event of death is always the same. If this is not done, the comparison is vitiated, since different amounts of insurance are involved. It can usually be shown that the separate investment fund in these circumstances must yield a rate of interest materially higher than that earned by the company in order to make the two propositions financially equal. This is because part of the expense of an insurance policy is incurred irrespective of amount or plan, so that term insurance involves a higher rate of expense than endowment insurance. The argument also assumes an equal degree of security, which is not likely to be the case.

**Term Policies.** A term policy is one under which the sum insured becomes payable only if the person insured dies within a stated period. This period may be 1 or more years and is generally 5, 10, 15, or 20 years. Policies for longer terms, such as to age sixty-five, are issued by some companies.

Term insurance covers a contingency only, not a certainty. Except where the period of insurance is long (as in the case of "term-to-age-sixty-five" policies issued at the lower ages) most policies issued on the term plan will not become payable as death claims, the probability being that the insured will survive the term of insurance. In this respect, term life insurance is comparable to fire insurance and some forms of casualty insurance where the purpose is merely to provide protection against a *possible* loss and where, in most cases, the probability is small. Naturally, therefore, the premium required for a term policy is less than for either whole life or endowment insurance. This does

not mean that term insurance is "cheaper" than these other forms. The lower cost simply reflects the lower benefit. In fact, term insurance may actually be the more expensive form since experience shows that the rates of mortality among applicants for term insurance are likely to be higher than for other forms of insurance, and this may be reflected in the premium rate or in the dividends payable on participating policies.

In the earliest days of life insurance, term policies were the only ones issued. The first of which we have any record covered a period of a few months or a year. They were taken out by persons about to make a journey or engage in some hazardous enterprise. The rate of premium charged for these early term policies was nearly always the same, \$5 for each \$100 of insurance, a very high rate by present standards. It is to be remembered, however, that the nature of the risk was then quite different. Very little evidence about the health of the applicant was required, while the insurance was usually taken to cover a greater than usual risk and not merely the ordinary chances of death. In the early years of the nineteenth century, when life insurance was first furnished by corporations, term insurance formed by far the largest part of the life business of such companies. Even during the early years of some of the older companies operating at the present time, term insurance formed an important part of the total business. No doubt this is partly explained by the fact that life insurance was then little known or understood and that many of the policies taken were for business purposes where protection was required for a temporary period only. Life insurance for family protection was in its infancy. With the development and extension of permanent forms of life insurance, the simple types of term insurance referred to above have come to constitute a small part of the total insurance written. However, there has been a great increase in the use of certain types of special policies which combine whole life and term insurance in a single contract. Term insurance is, therefore, an important part of the business of most companies.

*Convertible Term Insurance.* The field for term insurance was greatly enlarged by the inclusion in the term contract of a provi-

sion for conversion to a permanent plan.<sup>1</sup> Practically all term policies give the right to exchange the term contract, within a specified period, for permanent insurance, at the option of the insured, irrespective of his state of health at the time of exchange. Such a contract meets the needs of those who, while at present unable to pay the larger premium rates required for whole-life or endowment policies, expect or hope to be able to pay for such policies in the future. Convertible-term policies are also useful when it is desired to leave the final decision about plan until a later time when it may, for some reason, be possible to make a better choice.

Conversion may usually be made either as of the date of conversion or as of the original date of the term policy. In the former case (conversion as of current date) the premium rate and the form of policy are those for policies currently being issued. In the latter case (conversion as of original date), the premium rate would be that applicable at the time and age at the date of issue of the term policy. An adjustment on account of differences in past premiums with interest thereon would be required, and the form of policy would usually be that in use at the date of the term policy. Allowance for the difference in dividends, if any, would also be made.

In either case some limitation on the time within which conversion may be made is desirable in order to prevent adverse selection by policyholders who are in bad health at or near the end of the term period. The following is a typical clause providing for conversion of a 10-year-term policy:

*Privilege of Change to Ordinary Life, Limited Payment Life, or Endowment Policy.* Provided this Policy is in force and no premium is in default, this Policy may be exchanged, without medical reexamination, at any time within 7 years after its date of issue and within the limits of age hereinafter stated, either as of its original date or as of the date of exchange as hereinafter set forth, for a premium-paying policy of the same face amount, upon either the Ordinary Life, the Limited Pay-

<sup>1</sup> In this connection, the expressions "permanent plan" and "permanent insurance" refer to whole life or endowment insurance as distinguished from term (i.e., temporary) insurance.

ment Life, or the Endowment plan. A written request signed by the Insured and beneficiary or assignee, if any, and the legal surrender of the Policy to the Company at its Home Office, will be required.

(1) *If the exchange be made as of the original date of this Policy*, there must be paid to the Company a sum equal to either (a) the differences between the premiums paid hereon and the premiums which would have been paid upon the Policy had it originally been issued on the new plan, with interest upon such differences from the various due dates to the date of exchange at a rate of interest not exceeding 6 per centum per annum compounded annually, allowance being made for any larger dividends on the new plan; or (b) the cash surrender value guaranteed in such a new Policy at the date of exchange if such cash value be greater than said differences with interest as provided in (a). The new policy shall bear the same date and number and shall be written as of the same age of the Insured as this Policy, and shall be at the rate of premium in force for such new plan at the date of this Policy, but such exchange cannot be made if the attained age of the Insured exceeds fifty-five years.<sup>2</sup>

(2) *If the exchange be made as of the date of exchange*, the New Policy shall be issued as of the age of the Insured upon the birthday nearest the date of such exchange, the premium rate being the rate for such age according to the rate of the Company then in force, but such exchange cannot be made if the attained age of the Insured exceeds sixty-five years.

Where conversion is made as of current date, a *conversion value*, based on the reserve held against the term policy, may be allowed toward payment of the premium on the new policy. This would usually be of small amount, since there is relatively little investment element or reserve in term insurance.

*Automatic Conversion.* A form of term insurance issued by some companies provides for automatic conversion at the end of the term to a specified plan of permanent insurance. Under such a contract the company is not protected against adverse selection arising from the option to continue or discontinue the insurance at the end of the period of term insurance. Policyholders in poor

<sup>2</sup> This limitation is necessary since, in certain cases, the charge provided for would be insufficient to equal the increase in liability (reserve) under the new policy. Special terms would be made for a change in such cases.

health at the end of the term period are more likely to continue the insurance and pay the higher rate of premium for the permanent plan of insurance than those who are in good health. The rate of mortality among those who elect to continue on the permanent plan is therefore likely to be higher than among the whole body of policyholders.

Even under the more usual type of convertible term insurance, where the right to convert must be exercised several years before the end of the term period, there is some adverse selection. Experience shows that the death rate among those who convert is higher than normal. It is recognized that premium rates for convertible term insurance should be higher than where there is no conversion privilege, in order to provide for the additional mortality cost of converted insurance.

*Renewable Term Insurance.* Renewable-term policies contain an option to renew for a limited number of further periods of term insurance, usually of the same length. Renewable-term policies may also be convertible to permanent plans as explained above. The following is a typical renewal provision:

*Renewal Privilege.* The Insured may renew this policy for further periods of 10 years each without medical examination, provided there has been no lapse in the payment of premiums, by written notice to the company at its home office before the expiration of any period of the insurance hereunder and by the payment in each year, on the dates above specified, of the premium for the age attained by the insured at the beginning of any such renewal period in accordance with the table of rates on the fourth page hereof.

A special case of renewable term insurance is the 1-year renewable policy, which provides for 1-year term insurance, renewable yearly, at increasing rates, up to age sixty or sixty-five, or for a specified period, after which the policy terminates or may be converted to a permanent plan of insurance at a level premium. Such a policy corresponds closely to true assessment insurance, but the age limitation mitigates the dangers of that system.

Renewable term insurance has serious drawbacks both to the insured and to the company. The reason for the low cost of term

insurance has already been stated. Under the renewable-term plan the premium increases either annually or at longer intervals; and while the premium remains low as long as the age is low, it increases substantially if the policy is continued in force beyond middle age. It is for this reason that renewable-term contracts are limited in the number of renewals which may be effected. Where insurance is required for the whole of life, term insurance should be taken only where there is a likelihood of conversion within a comparatively short period.

From the company's point of view renewable term insurance offers serious problems. Whether the policy is on the yearly-renewable-term plan or provides for a longer term and renewal at longer intervals at successively increasing premiums, there is likely to be a strong selection exercised against the company at the time of renewal, and this selection will be increasingly great as the age and the renewal premium increase. The temptation to drop a policy which calls for increasingly greater premiums will cause many of those who remain in good health to fail to renew at the time a premium increase takes effect, while those who are in poor health will be more likely to take advantage of the right of renewal, with the result that as time goes on the mortality experience among the surviving policyholders will be increasingly unfavorable. Adverse mortality experience from this cause can be provided for, to some extent, by adjustments in dividends if the policy is on a participating basis, but the policyholder must pay a relatively higher cost as compared with other forms of insurance. Where renewal is permitted to a high age, such as sixty-five, adverse selection may become serious, particularly on the yearly-renewable-term plan, and the company may be unable to avoid loss. This was illustrated by the history of the Provident Savings Society of New York, a company organized in 1875 to sell insurance exclusively on the yearly renewable-term plan. For about 25 years the company was able to operate successfully, but by the end of that time the mortality experience had become so unfavorable through adverse selection on renewal that it was necessary to change the plan of operation. A few years later the company went out of business.

The fact is that renewable term insurance can be satisfactory for ordinary individual insurance, both to the policyholder and to the company, only when limited to a total period which does not extend to the higher attained ages. So limited, renewable term insurance has a definite value. Very few companies now offer renewable term insurance except on a strictly limited basis as regards time and age.

**Minimum-amount and Preferred-risk Policies.** The rather vague term "special policies" is generally used to refer to policies on one of the standard plans other than term insurance which are issued either in amounts not lower than a specified minimum, such as \$5,000 or \$10,000, or only to applicants who qualify under a more severe standard of selection than applies in the case of regular standard policies.

These special policies are issued at lower rates of premium than for regular policies on the same plan. In the case of *minimum-amount* policies a lower premium rate per \$1,000 is possible because the rate of expense per \$1,000 is lower. Many of the expenses incurred at the time of issue of a policy and later in connection with its maintenance do not depend on the *amount* of the policy or, for some types of expense, are not proportionately higher for a large policy than for a small one. For example, the cost of keeping the necessary records, or the cost of bookkeeping and accounting and issuing premium notices, is the same for a large policy as for a small one. Again, the expense connected with the selection of the risk, such as the cost of the medical examination and of obtaining other information before the application is accepted, is usually somewhat greater in the case of the larger amounts, but not proportionately greater. If, therefore, a special class of policies is established with a minimum amount of, say, \$5,000 (and, therefore with a much higher *average* amount in the class than for the company as a whole), the rate of expense per \$1,000 will be substantially lower than for other classes not subject to the minimum amount so that the premium rate may be reduced for the special class.

In the case of *preferred-risk* policies the lower rate of mortality to be expected where a more severe standard of selection is applied permits a lower rate of premium.



The first special policy of this type was issued in 1908 by one of the large companies and was both a minimum-amount (\$5,000) and a preferred-risk policy. It was issued on only one plan of insurance, ordinary life. The principle has been quite widely adopted by other companies. Some of these special policies have been minimum-amount policies without any differentiation in medical standards; others have been preferred-risk policies, and these also have always been on a minimum-amount basis.

The adoption of these "specials" has become much more general in recent years, largely because of the marked inflationary trend since about 1940. As a result of inflation, the average amount of new policies issued has been increasing, and there are more applications for policies of large amount than formerly. In these circumstances, companies that issue minimum-amount policies have a competitive advantage over those that do not. The emphasis has been chiefly, if not entirely, on minimum-amount rather than on preferred-risk policies, and most of the "specials" are issued on the same selection basis as for regular policies.

The creation of special classes, whether based on amount or prospects of longevity, with lower premium rates must result in a higher cost of insurance for those who do not qualify for the special class than if no such separation were made. So far as *amount* is concerned, some distinction is logical and, indeed, if approximate equity is to be maintained, necessary. If such a distinction is not made in the premium rate, the small policy pays less than its fair share of expenses and the large policy more. As for *insurability*, the justification for charging lower premiums to "preferred risks" is not so clear. Life insurance requires that large groups of persons must be insured and depends on average mortality experience. It would be impracticable—in fact, impossible—to take account of all the variations of experience among different groups of policyholders. Thus, those who are eligible for insurance at standard rates must include some classes in which the experience will be better than average and others in which it is worse. The desirability of breaking down a class of standard risks into preferred risks and others is questionable, the result being to increase the cost of insurance for the others and to provide a less broad basis for the average experience of standard insurance.

A legitimate criticism applied in the past to special policies is that they have usually been limited to one plan of insurance—usually ordinary life. If a reduced premium rate is justified by size of policy or by the lower death rate of the class, a reduction in premium should apply to all plans of insurance. Limitation to a single plan has been made for purely practical reasons, i.e., to avoid complication and expense, and is admittedly illogical. The tendency now is to abandon the former type of limited minimum-amount policy and to adopt a system, applicable to all or most plans of insurance, of grading premium rates by *amount groups*. Such a system recognizes the fact that the expense rate per \$1,000 decreases as the amount increases and provides for a progressively decreasing premium rate per \$1,000 by amount. This is more logical but is more complicated than simply providing for the same lower rate for all policies of more than a specified amount.

### STANDARD FORMS OF ANNUITY CONTRACTS

The principal forms of annuity contracts may be classified in two groups: (1) immediate annuities and (2) deferred annuities.

**Immediate Annuities.** The word “annuity,” strictly speaking, means an *annual* payment. An annuity has been defined as “a periodical payment to continue during a given status.” The “status” may be, and usually is, the duration of a single life, in which case the annuity is called a *life annuity*, or, more correctly, a *single-life annuity*. The person during whose life the annuity is paid and who is usually, but not always, the purchaser is called the *annuitant*. If the status is the duration of two or more lives, the annuity is called a *joint-and-survivor annuity*. This type of annuity is frequently referred to incorrectly as a *joint annuity*. A joint annuity is one which ceases upon the occurrence of the *first* death among the lives involved—not the last, as is the case with a joint-and-survivor annuity. Joint annuities are very rarely issued, but joint-and-survivor annuities are common. From the insurance company’s point of view the premium on a joint-life-insurance policy constitutes a joint annuity since it ceases on the first death of the persons insured.

All these annuities are classed as *immediate*; i.e., if they are payable annually, the first payment is made 1 year after the date of purchase, the annuity being "entered on" immediately. If the annuity is payable semiannually, quarterly, or monthly, the first payment is made in 6 months, 3 months, or 1 month, respectively, after purchase. The cost of an annuity is greater the more frequently it is payable, since the loss to the annuitant in the year of death is diminished and also because of expense and loss of interest to the company granting the annuity. For example, the right to receive \$50 each 6 months, the first payment to be made in 6 months from purchase and the last payment being that immediately preceding death (the usual terms for an ordinary immediate life annuity), is more valuable than the right to receive \$100 each year, the first payment in 1 year. The holder of the former annuity gains 6 months' interest on \$50 each year and will also receive an additional payment of \$50 if his death should occur in the second rather than the first half of the (policy) year.

Occasionally, but not usually, annuities are made "apportionable," i.e., with provision for a pro rata fractional payment covering the period from the date of the last regular payment to the date of death. This necessitates an increase of the purchase price or "premium" since premiums for the usual type of annuities (nonapportionable) are calculated on the assumption that there is no such pro rata payment. The extra cost would be the value of an *insurance* of one-half the periodical payment, payable at death, since, on the average, death will occur halfway between two annuity-payment dates.

*Refund and Cash-refund Annuities.* The fact that, in the case of the regular immediate life annuity, payments cease at the death of the annuitant, no matter how soon after purchase that may occur, is sometimes regarded as an objection to that form of contract. In order to avoid the possibility of serious loss to the estate of the annuitant through early death, many companies issue *refund* and *cash-refund* annuities and annuities under which payments are guaranteed for a specified minimum period, such as 10 years. Under the refund annuity the company undertakes, if the death of the annuitant occurs before payments totaling the pur-

chase price have been made, to *continue* payment of the annuity until total payments equal the purchase price, the contract stating to whom any payments which may thus be due after the death of the annuitant shall be made. The cash-refund annuity provides that, if the death of the annuitant occurs before payments totaling the purchase price have been made, the excess of the premium paid by the purchaser over the total annuity payments made by the company will be paid immediately in cash. Naturally, these forms of annuity are more expensive (i.e., give a lower *yield* on the purchase price) than the ordinary life annuity. The additional benefit must be paid for and therefore decreases the annual yield of the annuity during the annuitant's lifetime. Table 3-1 illustrates the approximate differences in yield under these different forms of annuities. The premiums charged for annuities are not the same in all companies. These figures are intended merely for comparative purposes.

TABLE 3-1. COMPARATIVE AMOUNTS OF ANNUAL ANNUITY PURCHASED BY \$1,000

Age	Type of annuity		
	Regular	Refund	Cash refund
Male:			
50	\$49.96	\$43 30	\$42.12
60	66 13	52 52	50 18
70	94 89	66 24	61 36
Female:			
50	44.53	39.84	38 99
60	56 96	47 47	45 81
70	78.33	58.69	55 34

Since the object of purchasing an annuity usually is to obtain the highest possible income from one's capital, it would appear that guarantee provisions such as those described tend to defeat the purpose of annuities. Nevertheless, there seems to be an increasing tendency toward the purchase of refund or other "guar-

anteed" annuities rather than regular annuities. The average purchaser evidently considers that he is getting a better bargain when he is sure that the company will pay back at least the amount paid in, and he is willing to accept a lower income—and at the higher ages a substantially lower income—in order to secure that guarantee.

The premium rates for annuities depend not only on age but on sex. On the average, women live longer than men. In the case of life insurance, this fact is not usually taken into account, partly because women are a rather small minority of all those insured, partly because the difference in mortality is not very great and is offset to some extent by higher expense arising from the smaller average policy on women, and also because of the additional expenses which would be involved in making such a distinction. In the case of annuities, women are in the majority. The rates of mortality experienced among women annuitants are substantially below those among male annuitants. It is therefore essential to charge higher premiums for women than for men.

*Joint-and-survivor Annuities.* Joint-and-survivor annuities are payable until the death of the last survivor of two or more persons. Usually the amount of the annuity is the same during the entire currency of the contract. In many cases a better arrangement would provide for a larger income while both (or all) annuitants are alive, and a smaller income thereafter. Such an arrangement may be obtained by purchasing a combination of annuities as in the following example:

On the basis of the rates at present in use by one company a husband and wife aged, respectively, sixty-five and sixty could purchase a joint-and-survivor annuity of \$100 per month for a premium of \$24,980. The same total amount could be applied in the purchase of *three* annuities, each for \$39.22 monthly, namely: (1) an immediate life annuity to the husband, (2) a similar annuity to the wife, and (3) a joint-and-survivor annuity. Under this arrangement, the income while both were living would be \$117.66 monthly instead of \$100, while after the first death the survivor would have an income of \$78.44 monthly.

Variations may be made along similar lines which will provide

a greater or smaller reduction in income to the survivor. Some companies publish rates for such combinations with reduction to one-half or two-thirds of the original income, and frequently such a contract is preferable to the "straight" joint-and-survivor annuity.

*Temporary Annuities.* An immediate annuity which is to continue only for a specified number of years or until prior death of the annuitant is called a *temporary life annuity*. Few of these are issued.

*Deferred Annuities.* A *deferred annuity* is one under which payments commence after a stated period of years if the annuitant is then living. Deferred annuities may be purchased either by single premium or by annual premiums payable during the whole or part of the period of deferment. In the simplest form of deferred annuity, nothing is payable by the company if the annuitant dies before the date upon which the first payment of the annuity is due. This fact enters into the calculation of the premium, and the possibility of loss by death is compensated by a correspondingly low rate of premium, the premiums being sufficient to provide annuity payments only to those who survive. Thus, in the case of those who die before receiving any annuity payments, there is no "forfeiture." The purchaser receives exactly what he pays for; but the popular distaste even for an *apparent* forfeiture renders such simple deferred annuities unattractive to most purchasers, and very few of them are issued.

Deferred annuities are sometimes issued on more than one life. These *deferred joint-and-survivor annuities* are entered on at the end of the deferred period if *either* annuitant is living and continue thereafter until the death of the last survivor.

An annuity which is to begin at the death of one person, A, and to continue thereafter during the remaining lifetime of another person, B—such as an annuity to be paid to a wife *after* the death of her husband—is a *survivorship annuity*. If B (the wife) should die before A (the husband), the contract would terminate and no annuity payments would be made. Such a contract is really a form of life insurance. Here again, however, the dislike of the possibility that no payments may ever be made (if the "insured"

should outlive the "annuitant") renders this type of contract unpopular.

*Retirement Annuities.* The unpopularity of the types of deferred annuities described above as means of provision for old age has led to the development of a special type of deferred annuity known variously as *retirement annuity*, *pension annuity*, *income bond*, *retirement-income contract*, etc. The general basis of all such contracts is the accumulation at interest of the premiums paid, less expenses, and the application of the total accumulations at the selected retirement age to the purchase of an annuity beginning at that time. Such contracts provide for payment of a guaranteed cash-surrender value at any time prior to the retirement age, including a *cash option* at the time the annuity is to begin, and also for payment of such cash value in event of death before the annuity begins. In some cases the payment in event of death is the cash value or the total amount of premiums paid if more, the latter being greater in the early years following issue.

Because of commissions and other expenses the company could not afford to pay at any time a cash value equal to the total premiums paid plus the full amount of interest earned. In practice the cash values guaranteed are usually based on the accumulation of the *net* premiums at a low rate of interest, and the contract provides, in addition, for "dividends" which would consist chiefly of excess interest earned over the rate assumed. Usually these dividends may be left with the company to accumulate at a specified minimum rate of interest and may be applied at the retirement date to increase the amount of the annuity, or then be withdrawn in cash.

When the retirement age is reached, the policyholder usually has the option of selecting either the total cash value at that time (the cash option) or an annuity. In the latter case he may, as a rule, select one of several types of annuities, such as regular life annuity, refund annuity (under which the company guarantees to make total payments at least equal to the cash option), or, sometimes, a life annuity with a guarantee of a stated number (such as 5 or 10) of years' *payments certain* whether he lives or dies; sometimes also the right is given to select a joint-and-sur-

vivor annuity on his own life and that of the beneficiary, who would usually be husband or wife. The annual amounts of the different annuities which may be selected are such as can be purchased on the basis specified in the contract at the attained age by the amount of the accumulations, i.e., the cash option.

In all cases the amount of income purchased under these special types of deferred annuities is less, and usually very much less, than could have been obtained for the same premium outlay under a regular deferred life annuity. That is because in the latter case the accumulated premiums of those who die before the retirement age are not paid out as a cash value or death benefit but are used to increase the annuities paid to those who survive.

Retirement annuities have attained great popularity. From the purchaser's point of view they offer (1) a method of investing comparatively small sums at an effective interest rate which has generally been higher than that obtained on deposits in savings banks or other comparable forms of investment; (2) the option to apply the accumulations in the purchase of an annuity at a rate which is not only guaranteed for the future but which (because of the absence of commission or expense in connection with the conversion) is lower than the regular price; and (3) as a result of these two features, a practical plan for making provision for old age. In some cases the annuitant has the right to elect a change of the date at which the annuity is to commence, making it either earlier or later than that originally selected, with an appropriate adjustment in its amount.

From the company's point of view these contracts involve some rather serious problems. A retirement annuity of the type described, including the cash-option feature, is, in effect, a contract to sell, at the buyer's option and at a future date (perhaps 40 or 50 years hence), an annuity on terms now guaranteed. The purchaser may exercise the option (at the maturity date) either to "buy" the annuity or to take a cash settlement, as he sees fit. This involves the possibility of selection against the company since those in good health are more likely to elect an annuity settlement and those in poor health a cash settlement.



In view of this possibility of adverse selection, the downward trend in mortality rates among annuitants, and doubt about the future course of the interest rate, it is evident that unless the premium rates (and cash options) for such contracts are on a conservative basis, there is a chance of loss to the company.

In addition, business of this kind is very largely of an investment character. Where a large volume of it has been issued, the company may be subjected to extensive withdrawals at an unfavorable time, as when interest rates are high.

These objections do not apply to regular deferred annuities with no cash values and no options at maturity.

**Participating Annuities.** Most life annuities—other than the special types of deferred annuities referred to above, which are usually on a participating basis—are nonparticipating, i.e., do not provide for dividends, even when issued by mutual companies. Owing to the fall in interest rates which has occurred in recent years and the general downward trend of annuitant mortality—both tending to result in loss on annuities—a few of the principal companies have placed their regular immediate annuities on a participating basis. This means that in premium calculations more conservative assumptions are made about interest, mortality, and expense, with the result that the amount of the *guaranteed* annuity payments for any given purchase price is lower than when the annuity is on a nonparticipating basis. These lower guaranteed payments will, however, be supplemented by dividends arising from more favorable mortality experience, higher interest earnings, or lower expenses than those assumed.

From the purchaser's point of view there is both advantage and disadvantage in this arrangement. The advantage is that, instead of having a fixed income determined by current conditions, he will secure the benefit of any improvement in interest earnings or in other respects (mortality rate and expenses). On the other hand, the guaranteed income will be definitely lower than it would be on a nonparticipating basis, and the amount of the actual income, including dividends, will be uncertain. From the point of view of the company there is greater safety, since some provision is made for unfavorable experience.

Table 3-2 illustrates the difference in the amounts of immediate life annuities now (1956) obtainable on the participating and non-participating plans.

TABLE 3-2. MALE LIVES—PURCHASE PRICE \$1,000. AMOUNT OF GUARANTEED ANNUAL ANNUITY

Age at purchase	Nonparticipating basis, Company A	Participating basis	
		Company B	Company C
50	\$49.96	\$48 45	\$47 73
60	66 13	63 54	61 58
70	94.89	90 56	89 85

Generally speaking, the dividends on the participating contract should increase the total income to about the same as the non-participating rate. If conditions should become less favorable, the total income would in general be less on the participating plan; if more favorable, it would be greater.

**Annuities as an Investment.** Each payment of an annuity is made up partly of principal and partly of interest. The terms upon which immediate life annuities can be granted are, nevertheless, not particularly attractive unless the age of the proposed annuitant is not less than about fifty. Usually, when annuities are purchased at lower ages, it is because there is some special reason for the purchase, as, for example, the purchase being required under the terms of a will.

The reasons why life-insurance companies cannot offer more attractive terms for annuities at the lower ages are that (1) a conservative view of both the interest rate and the mortality rate must be taken, (2) part of the purchase price is necessarily spent in paying expenses, and (3) the rate of mortality among annuitants is very low and tends to decrease. Experience shows clearly that those who buy life annuities are a superior class from the point of view of longevity, so that it is necessary to make a very conservative estimate of the death rate to be expected. Moreover, as annuity contracts may extend for many years in the future, a low

rate of interest must be assumed in the calculation of premiums. At higher ages the normally high death rate, even among this superior class of the population, is sufficient to enable the companies to offer a high apparent yield because the principal itself is spread over only a short period of years.

There is a general impression that, because of the progressive lengthening of life, the companies have, in general, lost money on annuity business. This is not necessarily so, since profit derived from earning a greater rate of interest than that assumed has offset losses arising from increasing longevity. The trend of annuity premiums, however, has necessarily been upward and will probably continue so.

The important characteristics of life annuities from the purchaser's point of view are that (1) they enable him to secure a larger annual income than could be obtained from other forms of safe investment (through the use of principal as well as interest) and (2) the income is guaranteed for life, no matter how long the annuitant may live. The company can make this guarantee on the basis of an average experience among a large number of annuities since "losses" on those who live longer than the average will be offset by "gains" on those who do not. The company need consider only the average experience among its annuitants as a whole.

**Variable Annuities.** An entirely new development in annuities was the introduction in 1952 by the Teachers Insurance and Annuity Association of America of a form of deferred life annuity under which the annuity payments are not of specified guaranteed amounts. Premiums for these annuities are invested in a separate fund and exclusively in common stocks. Each premium buys a number of "accumulation units" in the fund, the number depending on the current market value of a unit. At the retirement date the current value of all the accumulation units owned is converted into a life annuity of a fixed *number* of "annuity units." The cash payment to an annuitant on any payment date is the current value of the fixed number of annuity units to which he is entitled.

This scheme is based on the belief that common-stock prices will tend to increase or decrease as the cost of living increases or decreases—which has been approximately true in the past. If that is

so, the actual cash income under such an annuity will reflect, to some extent, changes in the cost of living and will provide a more stable "real income," that is, a more constant purchasing power. This is highly desirable since, in periods of inflation, annuitants may suffer serious hardship from the decreased purchasing power of a fixed cash income.

The variable-annuity plan has been the subject of considerable controversy. It has not, as yet (1956) been adopted by any other regular life-insurance company. The chief objections to it are the serious fluctuations which can occur in the annual cash income and the possibilities of misunderstanding and dissatisfaction. Whether the plan will find more general acceptance remains to be seen.

### SPECIAL AND COMBINATION CONTRACTS

In view of the variety of standard forms of life-insurance and annuity contracts which are available, it might seem that there is little real need for additional special contracts. Such an opinion might be supported by the fact that all modern standard policy contracts contain provisions which make them adaptable to changing circumstances and special needs. Among such provisions are those providing for change in the plan of insurance, for liberal cash-surrender values, and for optional forms of income settlements in lieu of payment in a single sum. A large proportion of all insurance written is on the standard forms, but practically all companies offer, in addition, contracts which are devised to provide for special needs or circumstances.

Among the types of policies not previously mentioned are some which have become widely popular and which are suitable to meet special requirements, while others have failed to win popularity or have proved unsatisfactory. A special policy adapted to meet specific circumstances is likely to prove unsatisfactory if conditions change, and it may be difficult or impossible to make a change in the contract or to make a substitution for it on terms which are completely satisfactory to the policyholder. Many of these special policies are later changed to some standard type of insurance, which it would frequently have been better to take in the first

place. From the company's point of view special contracts cause additional expense which may not be justified by the volume of business transacted, and such forms are likely to cause a disproportionate amount of trouble in handling because of the special calculations involved and the greater frequency of changes. The various types of special contracts in use may be classified roughly into four groups:

- (1) Life-insurance policies payable primarily in the form of an income to the beneficiary rather than in a single sum
- (2) Combinations of life, endowment, or term insurance, or of insurance and annuities in the same contract
- (3) Life-insurance policies with premiums payable on an increasing scale
- (4) Miscellaneous contracts

**Life-insurance Policies with Income Settlement.** Two forms of life-insurance contracts which, instead of providing for payment of a face amount of insurance, are written to provide a life income beginning at the death of the insured, are the *life-income* policy and the *survivorship-annuity* policy. The latter, as already pointed out, is, in spite of its name, an insurance rather than an annuity policy since, like other insurance policies, its benefits commence only at the death of a person insured. The life-income policy provides for payment of a life annuity of specified amount (usually payable monthly) to the beneficiary, commencing at the death of the insured, with the guarantee of a minimum number of payments certain. The survivorship annuity provides the same form of benefit without the guarantee of payments certain. These contracts are suitable where the insured desires to provide an income of predetermined amount during the whole lifetime of the beneficiary. This cannot be done by using insurance on a standard plan payable in a single sum, because the amount required to provide a specified *life* income to the beneficiary depends on the age of the beneficiary at the time the income commences and decreases as the age of the beneficiary increases. A life-income policy or a survivorship annuity provides, in effect, a decreasing *amount* of insurance which is at its maximum at the time the policy is issued.

Under the provisions for optional settlements in single-sum policies the insured or the beneficiary may elect to receive the proceeds in the form of an income, which may be (1) for a specified period certain only, (2) for the lifetime of the beneficiary with a stated number of payments certain, or (3) (in many companies) a life annuity without payments certain. The first of these settlements provides an income of specified amount but not for life. The other two settlements provide an income for life but not for an amount which is specified at the original date of the contract since the income payable will depend on the age of the beneficiary at the time of the death of the insured.

Since the effective amount of insurance, under a life-income policy or a survivorship-annuity policy, decreases from year to year, the company will incur as a death claim the *value* of the income to be paid to the beneficiary, i.e., the capital sum needed to provide this income at the time of the insured's death. This capital sum is sometimes called the "insurance value," which is at a maximum at the time of issue and which decreases each year.

In the case of a survivorship annuity, which is a life-income policy without any payments certain, the insurance value is simply the amount needed to provide a life annuity to the beneficiary at the date of death of the insured. A life-income policy guarantees income payments for a definite number of years, usually 5, 10, or 20. The insurance value of a life-income policy will therefore consist of two parts: (1) the capital sum required to provide the specified number of payments certain and (2) the amount required to provide for the continuation of these payments after all the guaranteed payments have been made if the beneficiary is still living. The amount of the first part, the value of the payments certain, will be the same irrespective of the age of the beneficiary. For example, if the income provided by the policy is \$100 monthly and if the number of years' payments certain is 20, the capital sum required on a  $2\frac{1}{2}$  per cent basis to provide these payments is \$19,175. This amount, which is part of the insurance value, is the *commuted value* of the installments certain. The remainder of the insurance value, which provides for continuation after the payments certain, depends on the age of the beneficiary, this part of

the benefit being, in fact, a *deferred survivorship annuity* commencing, in this case, 20 years after the death of the insured instead of immediately after his death.

The life-income policy may therefore be considered as a combination of (1) a whole-life or endowment policy for the amount of the commuted value of the installments certain and (2) a deferred survivorship annuity of the amount of income provided by the contract. The simplest form of life-income arrangement is a survivorship annuity, which provides an income of fixed amount to the beneficiary for life, commencing at the death of the person insured and without any guaranteed period whatever. This is different from merely settling a "single-sum" policy by the issue of a life annuity, since in the latter case the amount of the income secured would not be a fixed amount but would depend on the beneficiary's age at the death of the insured. Moreover, a whole-life or endowment policy is payable at the death of the insured whether the beneficiary named is then living or not, whereas the income under a survivorship annuity becomes payable only if the beneficiary is living at the death of the insured. For that reason the cost of a survivorship annuity providing for the same annual income is much lower. The development of optional modes of settlement (including a life income to the beneficiary) in all regular policies has very largely removed the need for a special life-income policy. At one time, however, a considerable number of such policies were issued, many of which are still in force.

**Policies Combining Different Kinds of Insurance or Annuities.** The principal contracts combining different kinds of insurance or annuities are the *double-protection*, *family-income*, *family-maintenance*, and *insurance-with-annuity* policies.

*Double-protection Policy.* The double-protection policy is the simplest type of combination of different plans of insurance. It generally consists of equal amounts of whole-life and term insurance, thus giving "double protection" during the term period. The term insurance usually runs for 20 years or until age sixty-five and is convertible to a permanent plan.

Such a combination has no particular advantage over separate policies. It is more in the nature of a sales device since the small

additional cost of doubling (temporarily) the amount of insurance protection may look like a bargain to the applicant.

*Family-income Policy.* Originally, the family-income policy was a combination of ordinary life insurance and decreasing term insurance in one contract which provided the following benefits: In event of death *within* a specified period (10, 15, or 20 years, as selected by the applicant) an income of \$10 monthly for each \$1,000 of the face amount of the policy was payable to the beneficiary for the *balance* of the selected period, followed by payment of the face amount at the end of the period when the income payments ceased; in event of death *after* the expiration of the selected period the face amount of the policy was payable in a single sum.

For example, if the selected period is 20 years and if the insured dies in the tenth year, the beneficiary receives \$10 a month for each \$1,000 unit *for the remaining 10 years* (and fraction of a year) and \$1,000 at the end of that time. If death occurs in the fifteenth year the income is payable for only 5 years.

The general object of this arrangement is to provide income after the insured's death and while his children are still young.

Part of the income payments is provided by the interest earned on the amount of ordinary life insurance (retained by the company until the end of the income period). The remainder is provided by the decreasing term insurance. If, for example, the rate of interest assumed by the company is  $2\frac{1}{2}$  per cent, interest on the face amount withheld will provide \$25 of the \$120 annual income (\$10 monthly). The amount of term insurance in any year during the selected period will be the amount required to provide the balance of \$95 per annum for the remainder of the period. The term insurance required is thus at its maximum at the date of issue of the policy and decreases each month, reaching zero at the end of the selected period.

Family-income policies proved to be extremely popular and were very widely adopted. The original plan of combining the permanent and temporary insurance in a single contract or policy form, however, has been very generally replaced by the use of family-income riders. Such a rider provides the decreasing-term-insurance



part of the arrangement and also provides in effect that in event of the death of the insured within the specified period the proceeds of the policy to which it is attached will be held during the income period by the company under the interest option (as described in a later chapter), the interest being used to provide part of the income payments. The practical advantage of a rider as compared with a special policy form is that a single form of rider can be used in connection with a permanent policy on any plan. The rider can also be adapted to provide for any desired period of term insurance. It would be expensive and impracticable to prepare special policies on more than one permanent plan (such as ordinary life) or for more than two or three alternative "selected periods."

The development of family-income riders has led to the use of similar riders for other purposes where *decreasing* insurance is required. The principal such purpose is to provide for payment, at the death of the insured, of the outstanding balance of a mortgage loan which is being repaid in regular installments over a period of years, as, for example, an FHA (Federal Housing Administration) loan. Where used for that purpose the rider may be called a *mortgage-redemption rider*. If the regular family-income rider is used, a provision is added giving the beneficiary the right to *commute* the income payments and thus receive settlement in a single sum instead of in the form of a monthly income. The settlement would, of course, include the face amount of the permanent policy to which the rider is attached.

In general it is not considered practicable to issue a contract providing *only* for decreasing insurance. Unless such a contract is limited to cases where the initial amount of insurance is quite large, the insurance in the later years would be very small—much smaller than the company's regular minimum. There would also be practical difficulties owing to the fact that a *level* premium would greatly exceed the cost of insurance in the later years. Decreasing term insurance is, therefore, generally issued only in conjunction with a minimum amount of insurance on a permanent plan.

*Family-maintenance Policy.* The family-maintenance policy

(sometimes called the family-protection policy) is, like the family-income policy, a combination of whole life or other permanent insurance and term insurance; but in this case the term insurance is of uniform (not decreasing) amount throughout the selected period. It provides for payment beginning at the death of the insured, if that occurs within the selected period, of an income for a fixed period of 10, 15, or 20 years, *running from the date of death of the insured* (rather than for the *balance* of such period running from the *date of issue of the policy* as in the family-income policy), with payment of the face amount at the end of that time. If death occurs after the period of term insurance, the benefit is the same as under the family-income policy, namely, a single-sum payment of the face amount. The premium is higher than for the family-income policy since the benefit is greater.

The family-maintenance policy has not been adopted to the same extent as the family-income policy. It has, however, two advantages over the family-income policy. The first of these is that if conditions change—for example, if an applicant with one or more young children later has other children—a uniform term of income will meet the insurance needs at the applicant's death, whereas a decreasing term of income, as in the family-income policy, might fail to do so. The second advantage is that, since there is a uniform benefit in the event of death at any time during the period of term insurance, the family-maintenance policy is not subject to possible misunderstanding by the insured of what benefits the policy provides. In the case of the family-income policy it is important that the insured understands that the maximum number of income payments will become payable only in event of his death immediately after the policy is issued and that the number of possible income payments is steadily decreasing.

*Insurance-with-annuity Policy.* The insurance-with-annuity contract is issued by nearly all companies and under a variety of other names, such as *endowment annuity*, *retirement endowment*, etc.

This policy was originally devised for the purpose of combining, in one contract, *insurance* of \$1,000 in event of death prior to a retirement age, such as sixty-five, and a *life income* of \$10 monthly beginning at that age—usually with either 10 or 20 years' pay-

ments certain. Such an arrangement requires the accumulation of a larger sum than \$1,000 at the maturity date, since \$1,000 is not sufficient to provide a life income of \$10 monthly (with payments certain) except at very advanced ages. The amount required to provide the income at the maturity date depends on the sex and age of the payee, on the number of payments certain, and on the mortality and interest bases used to compute it—which would normally be the same bases as for the life-income option in the optional modes of settlement in single-sum policies.

For example, on the mortality and interest bases now used by some companies, about \$2,025 is required to provide a life income of \$10 monthly with 20 years' payments certain to a man of sixty-five, and about \$2,130 for a woman of the same age.

A feature of all such policies is that, at the maturity date, the insured may elect to take the "cash option" i.e., the commuted or single-sum *value* of the income instead of the life income.

Since the amount of the reserve for an insurance-with-annuity policy must eventually equal the cash option at the maturity date, another feature of such policies is that for some years prior to the maturity date the cash value of the policy will exceed the face amount. Originally, the usual *unit* of insurance for each \$10 of life income was \$1,000. As the companies began to adopt lower rates of interest and more modern mortality tables in computing the amount of the cash option per \$10 monthly life income, thus increasing them substantially, it was found desirable to increase the unit, or face amount, of insurance per \$10 monthly income benefit so that the policy would not acquire a higher cash value than the face amount after it had been in force for a relatively short time. For example, if the face amount was \$1,000 and the cash option at maturity was \$2,000, the face amount might exceed the cash value for only about half of the whole period of the policy. In that case the policy would differ only slightly from the usual retirement form of deferred annuity—giving greater death benefits only in the earlier years.

Policies of this type are now usually issued on the basis of a unit of \$1,500, \$1,750, or \$2,000 of insurance (face amount) for each \$10 of monthly life income.

This type of contract is equivalent to a deferred annuity of the retirement type *plus* decreasing term insurance of the *excess* of the face amount over the cash value. It has the same defect as the deferred annuity, i.e., that unless the cash option is determined on a conservative basis losses may be incurred through adverse mortality experience arising out of the option to take cash, or because of further improvement in the mortality among annuitants. This policy, like the retirement annuity, is, in effect, a contract to sell an annuity at a future date at the buyer's option and on a predetermined basis.

These "endowment annuities" were developed as retirement contracts. They have increased in importance with the extension of their use in establishing employee pension plans under the *pension-trust* system. In some companies a large volume of pension trust insurance is being written on this plan.

**Policies Providing for Premium Payment on an Increasing Scale.** Contracts providing for premium payment on an increasing scale include *modified-life* policies as well as some miscellaneous contracts.

*Modified-life Policies.* Modified-life policies provide for payment of a premium lower than the level-premium rate during, generally, the first 3 or 5 years, and a higher premium thereafter. Such a rearrangement of cost is possible as long as the "reduced premium" payable in the first few years is not less than the actual cost, i.e., not less than for term insurance. If only the term-insurance premium is paid during the period of reduced premiums, the premium required thereafter would be the same as for a new policy at the then attained age, an arrangement which is simply "term insurance with automatic conversion." The modified-life policy calls for initial premiums somewhat higher than for term insurance so that the subsequent premiums are less than for a new policy at the higher age.

The reduced premium may be any amount between the premium for term insurance and the level premium for the type of insurance provided—usually whole life, although the arrangement is applicable to endowment or even to term insurance. Sometimes the reduced premium is determined at such an amount that the increase, when it takes effect, will probably be approximately offset

by dividends. This gives a more nearly level cost to the policyholder than if he had a regular level-premium policy with, normally, increasing dividends and therefore *decreasing* cost. Another arrangement is to make the reduced premium one-half of the subsequent premiums. In that case, the policy is sometimes erroneously referred to as a "half-rate policy," which is, of course, misleading.

Since the premiums payable in the first few years under such policies are greater than the premiums for term insurance, cash values are available after the first year or two, but these are less than under a regular policy with level premiums.

*Other Increasing-rate Policies.* A few companies have adopted other types of policies under which the premium rate is on an increasing basis. These are sometimes called "economic-adjustment policies." They vary in detail but are all of the same general type. They are intended for persons who at present cannot afford the higher rates on permanent regular plans for an adequate amount of insurance but who hope to be better off financially in a few years. It is questionable whether special policies of this type are preferable to regular convertible term insurance under which a larger amount of immediate protection could be obtained at the same cost—with, however, a greater cost later. They are in any case likely to be more complicated and less adaptable to changing conditions.

*Other Miscellaneous Contracts.* Some of the contracts discussed in the following paragraphs are no longer issued. They have the disadvantage that their true nature is likely to be misunderstood by the insured. In some states their use would not be permitted.

*Guaranteed-dividend Policies.* Guaranteed-dividend policies are nonparticipating contracts which contain provision for the payment of an annual "dividend" of specified amount. Usually the policy contains a sheet of coupons for such dividends, resembling the coupons attached to bonds. In life insurance the term "dividend" means the policy's share in the company's divisible surplus earnings, and the amounts of such dividends cannot, of course, be accurately predicted at the date of issue of the policy. Guaranteed dividends, therefore, are not dividends at all but are simply an additional benefit for which an additional premium must be, and in fact is, charged. The guaranteed "dividends" are as much

a part of the contractual liability as the face amount of insurance itself.

*Policies Providing for Payment at Death of the Face Amount plus Cash Value.* Because of misunderstandings regarding the true nature of level-premium life insurance and of the relative amounts of effective insurance protection under different forms of contracts, it is sometimes asserted that the cash-surrender value of a policy is forfeited to the company when death occurs, and the claim is made that the company, in addition to paying the face amount of insurance, should also pay the cash-surrender value of the policy. Contracts have been issued by a few companies, nominally on the ordinary-life plan or some other standard plan, which provide for payment in event of death of both the face amount and the cash value. As in the case of guaranteed-dividend contracts, the payment over and above the face amount of insurance is an additional benefit in the form of increasing insurance for which an additional premium is necessary. There is no theoretical objection to such a contract if anybody wants it. The objection to it lies in the possibility of misrepresentation whereby the purchaser supposes that he is paying for a regular ordinary-life or other standard policy and getting a substantial additional benefit without additional cost.

*Other Special Policies.* Policies have been issued by some companies which provide that the proceeds at the death of the insured may be left with the company and that interest will be payable during the lifetime of the beneficiary at a rate higher than can normally be obtained or than is being earned by the company. The policies of practically all companies provide optional modes of settlement under which the payee may elect to leave the proceeds with the company at a low guaranteed rate of interest, in addition to which he will receive excess interest at such rate as may be determined by the company. In other words, the interest payable is limited to actual earnings. Where the contract specifies a rate higher than the company is earning or expects to earn, the additional interest is simply an additional benefit for which a premium is charged, the extra benefit in this case being in the form of a survivorship annuity. For example, if the policy specifies 6 per cent

and if the company assumes that it can earn 3 per cent, the additional benefit in the case of a \$1,000 policy is a survivorship annuity of \$30 per annum payable to the beneficiary after the death of the insured. The premium for such a contract would therefore be greater than for a standard policy by the amount of the premium for the additional survivorship annuity. Here, again, there is nothing theoretically objectionable in the combination. The practical objection is that the insured probably thinks he is getting a "6 per cent investment" for the beneficiary and does not realize that he is paying an extra premium for the additional income promised.

Many years ago a number of different contracts of this character were commonly issued by some of the principal companies under such names as "5% Gold Bond," "4% Debenture," or "6% Consol." Some of these contracts provided for payment of the interest rate specified during the lifetime of the beneficiary; others guaranteed the interest for a specified term of years. All such policies required higher premiums than for similar plans of insurance without any guarantee of a high yield to the beneficiary. They were of an essentially misleading character.

Policies of the types described above have been discouraged or forbidden by most state authorities. In most states it is necessary to obtain the approval of the insurance department before issuing any new kind of policy, and states in which such approval is required would undoubtedly refuse to permit the issue of any misleading or questionable form of policy.

### USES OF LIFE INSURANCE FOR BUSINESS PURPOSES

The use of life insurance for business purposes by individuals, firms, and corporations has very greatly increased in recent years. An insurance policy may be a valuable asset to a businessman. When it has been long enough in force to have acquired a cash value, it is available as collateral security and, through the customary loan clause, as a means of quickly and privately securing ready cash in times of stringency. This is a point of no small importance, as has been abundantly proved in the past. During the financial panic of 1907, when loans were practically unobtainable

even on the best security and when the rate of interest on such loans as were made rose to an unheard-of figure, the holders of life-insurance policies were able to borrow—and many of them did borrow—at 5 or 6 per cent and upon demand.

For a few months in 1933, following the closing of all banks by the President of the United States, it was necessary, in the public interest, for state insurance authorities to declare a partial moratorium on the loan provisions of life-insurance policies in order to prevent serious and needless losses to all policyholders through forced sales of securities by the companies. Most policies issued in recent years provide that a loan may be withheld for a period not exceeding 6 months, except where the loan is to be made for the purpose of paying premiums on the policy. The object of this provision is to avoid the same situation as arose in 1933. While loans are thus not technically available *on demand*, in practice they are actually so, since the “delay clause” would be invoked only in an emergency.

For individuals, a life-insurance policy is useful as a means of making provision for payment of inheritance taxes, being, in fact, the ideal method of providing for this liability. Inheritance taxes must be paid in cash, and the withdrawal of a considerable sum of cash from an active business or the sale of securities at short notice is likely to cause some loss.

Life insurance is also useful to individual businessmen to provide against loss from the death of a debtor and for the purpose of safeguarding loans, particularly loans in which the element of personal security is present.

For partnerships and corporations, life insurance is of value for most of the purposes mentioned above and is now used much more than formerly for the purpose of paying out the interest of a deceased partner. In addition, corporations frequently desire protection against the loss which would result from the death of a valuable officer or employee. Many corporations take insurance on the life of the president of the corporation and sometimes on the lives of other officers or employees as well. Usually the reason for the insurance is the value of the services of the individual insured or the liability which may be created by his death. This value may lie in exceptional business ability, administrative capac-



ity, or unusual knowledge on the part of the individual insured so that profits or even the business itself might be seriously affected by his death.

Corporations also sometimes find it convenient to use an endowment-insurance policy on the life of a principal officer as a sinking fund, in order to provide a required sum of money, at a stated date, for the redemption of a bond issue or a mortgage where the ability of the corporation to repay the debt might be endangered by the death of the person insured.

Prior to 1921, sums received by a partnership or corporation under policies of insurance paid at the *death* of the person insured were considered as income and were subject to the federal income tax. Under the present law, however, proceeds of such insurance payable at death, irrespective of whether the payee is an individual or a partnership or corporation, are not subject to income tax. This is, no doubt, one reason for the increase in the use of life insurance for business purposes.

### JUVENILE INSURANCE

The usual lower limit of age for the issue of regular "adult" policies of the types described in this chapter is ten, or, in some companies, five. Nearly all companies also issue policies on the lives of children at ages below the regular "adult" minimum. These policies are issued on the application of the parent or other person responsible for the child's support.

In some states there are legal limitations on the amount of insurance which may be issued on the life of a young child. Most of these limitations apply up to age five, but in a few cases to age ten or fifteen. For this reason, a feature of most juvenile insurance is that the amount of insurance is graded, i.e., is on an increasing basis during the early years of life, reaching the "ultimate amount" at age five, ten, or fifteen. Usually, juvenile policies are available on only a few standard plans. Some companies issue special juvenile policies under which, in event of death before a specified age, such as fifteen or eighteen, the policy provides for the return of all premiums paid with interest thereon at a low rate. Such a contract is not considered as involving *insurance* prior

to the specified age and therefore can be issued for any "ultimate" face amount. The more usual type of juvenile policy involving a graded, increasing *insurance* benefit from the date of issue could not be issued for large amounts unless the amount of effective insurance per \$1,000 at the lowest age was very small, so that insurance under a large policy would not exceed the legal limit.

A common feature in juvenile insurance is the addition of a provision or rider under which, in event of the death (or frequently also the total and permanent disablement) of the *parent*, premiums under the policy are waived until the insured (the child) reaches a specified age, such as eighteen or twenty-one. This is called a "premium-protection" provision or rider.<sup>3</sup>

### REVIEW QUESTIONS

1. State and briefly describe the three "standard" types of life-insurance policies.
2. Give an example of the circumstances under which each of the three standard types of life-insurance policies is suitable.
3. Discuss briefly the features of endowment insurance as an investment.
4. What is (a) renewable term insurance? (b) convertible term insurance?
5. Discuss the statement: "Term insurance is the cheapest form of life insurance."
6. Explain the nature of (a) minimum-amount policies; (b) preferred-risk policies; (c) modified-life policies.
7. State and briefly explain the different kinds of (a) immediate; (b) deferred life annuities generally issued by life-insurance companies.
8. What is a survivorship annuity?
9. From the point of view both of the company and of the annuitant, what are the advantages and disadvantages of participating immediate life annuities?
10. Describe the family-income policy. For what purposes can it be used?
11. State some of the principal uses of life insurance for business purposes.
12. What is juvenile insurance? Explain the nature of a premium-protection clause or rider in a juvenile policy.

<sup>3</sup> Juvenile insurance is discussed further in Chap. 9.

## The Mortality Table

In order to understand many of the important practical questions which arise in life insurance, some knowledge of the methods used in calculating premiums and reserves is essential. The basis of life-insurance calculations is the mortality table. The mortality table shows the annual *death rates*, or *rates of mortality*, at each age which have been experienced in the past. A mortality table is thus simply a record of past experience, and the use of a particular mortality table as a basis for calculating life-insurance premiums implies the assumption or "expectation" that the experience of the future will duplicate that indicated in this table. Naturally this assumption will not be realized. Because of the progressive increase in the average duration of life the rates of mortality experienced in the future will normally be lower than those of the past. Where large numbers are involved, future experience may be very closely estimated because change in mortality rates is slow, and such rates, when applied to large numbers, are fairly stable. It is not at all necessary for the successful operation of a life-insurance company that the mortality experience be capable of being accurately predicted. All that is necessary is that the rates of mortality used for calculating premiums should not be understated.

**Construction of Mortality Tables.** The construction of mortality tables is a technical matter. However, a general idea of the method of preparing such a table may be derived from the following illustration showing how a life-insurance company might construct a table on the basis of its own experience. A schedule could be drawn up showing for each attained age the number of persons insured in the company at Jan. 1 and also the number who had

died at each age during the succeeding year. The numbers dying at each age could then be expressed as a proportion of the numbers of that age who were "at risk" during the year, so many per 100 or per 1,000 insured.<sup>1</sup> The schedule showing past experience would appear in part as shown in Table 4-1.

TABLE 4-1. MORTALITY EXPERIENCE—YEAR OF 1955

Age in 1955	Number insured	Number of deaths	Number of deaths per 1,000 insured
15	20		
16	60	1	16.7
17	100		
18	250	1	4.0
19	418	2	4.8
20	1,020	3	2.9
Etc.	Etc.	Etc.	Etc.

If the investigation is limited to a single year, the results, even in a very large company, will be subject to considerable distortion owing to accidental fluctuations arising out of the small numbers and the short period involved. It would be better to base these "proportions dying" on the experience of several years instead of on the experience of a single year, so as to get average results. If the experience of more than 1 year were used, the "number insured" would, of course, have to correspond with the number of years adopted. In technical language, the deaths during the whole period would have to be compared, not with the number of persons insured, but with the number of years' "exposure to risk" of death. Thus, if the table were based on the experience of 5 years instead of 1, the deaths at each age during the 5 years would have to be compared with the total "exposure" at that age so that a

<sup>1</sup> In calculating the proportions it would be necessary to make allowance for the fact that some of the lives insured were not "at risk" for the whole year. For example, those taking insurance during the 12 months under consideration would, on the average, be insured for only 6 months. Others, who lapsed their policies, were "exposed" only for part of the year, and so on. These adjustments may be ignored for our present purposes.

person who was insured during the whole time would be counted once at each age attained during the period.

The figures in the last column, headed "number of deaths per 1,000 insured," show the *rate of mortality* among the lives insured in the company in question during the period covered. The rate of mortality at any age is, therefore, *the proportion of persons of that age who die in a year*. This proportion may be, and usually is, expressed "per 1,000," as "4 per 1,000" at age eighteen in the above illustration, but it may be expressed in terms of other numbers such as per 100 or per 100,000 living. Thus, mortality rates from specified diseases are usually expressed "per 100,000 living" because such rates are much smaller than the total rate from all causes of death. In theoretical work the rate of mortality is usually quoted on a unit basis; e.g., "4 per 1,000" would become 0.004.

If it is now desired to ascertain the "probable" number of deaths in the coming year, this may be done by arranging a schedule similar to that given above, showing the number of persons insured this year at each age attained, and by multiplying the number at each age by the previously ascertained death rate per 1,000.<sup>2</sup> This is approximately the process by which life-insurance companies ascertain the "expected deaths." In the same way the "expected claims" are obtained by multiplying the total *amounts* of insurance at each attained age by the rates of mortality. In practice it is usual to employ, for most purposes, a standard table of mortality based on the experience of many companies rather than a set of mortality rates based upon the limited experience of the company itself.

It should be noted that the "expected deaths" or "expected claims" obtained in this way are simply those which would occur if the company's mortality experience should happen to coincide with the standard table used. For the reasons already explained this is not at all likely to happen and is certainly not "expected." These expressions therefore have a purely technical significance.

**Mortality Tables Based on the Experience of Life-insurance Companies.** The principal standard mortality tables based on the

<sup>2</sup> Some smoothing process, or, as it is called, "graduation," would first have to be applied to the crude rates in order to eliminate accidental fluctuations due to small numbers.

experience of life-insurance companies of which the reader should have some knowledge are (1) the American Experience Table, (2) the American Men Table, (3) the Commissioners' 1941 Standard Ordinary Table (the C.S.O. Table), and (4) the 1941 Standard Industrial Table.

*The American Experience Table.* The American Experience Table was constructed in 1868 from the experience of the Mutual Life Insurance Company of New York during a period of about 20 years and was the first mortality table based on the experience of insured lives in America. Until about 1947 it was almost universally used for the calculation of life-insurance premiums and reserves. It is no longer an accurate measure of mortality rates among life-insurance policyholders, particularly at the lower ages, where the American Experience Table shows mortality rates much higher than those now experienced. For business issued since 1947 the American Experience Table has been generally replaced by the C.S.O. Table.

*The American Men Table.* The American Men Table, published in 1918, was based on the experience of a group of the principal companies during the period 1900 to 1915. The rates of mortality by this table are much lower at the lower ages than by the American Experience Table, the difference decreasing as age increases until from about age fifty-five there is little difference between the two tables.<sup>3</sup> This shows the general nature of the improvement in mortality, which has been much greater, relatively, at the lower ages. Since 1918 the same general trend has continued.

The American Men Table, representing the mortality experience of about half a century ago, can no longer be considered a "modern" table. However, it corresponds much more closely to modern experience, particularly with regard to the relative mortality rates at different ages, than does the American Experience Table.

For many years after its publication no use was made of this table for the calculation of premiums and reserves. This was partly because it was not a permissible legal standard in all states, and partly because of the reduction in the "safety margin" and the fact that under the new table reserves and legal minimum nonforfeiture

<sup>3</sup> See Table 4-4.

values would have been generally increased, as explained in a later chapter. Later a few companies adopted it, but it has never been widely used.

*The Commissioners' 1941 Standard Ordinary Table.* The Commissioners' 1941 Standard Ordinary Table, generally referred to as the C.S.O. Table, was prepared by the Guertin committee, which was appointed in 1938 by the National Association of Insurance Commissioners to study the need for a new mortality table for life-insurance purposes. It was published in 1941 and was based on the experience of a group of the principal companies from 1930 to 1940.

The C.S.O. Table has been since 1947 the mortality table in general use for premium and reserve calculations on new policies. It is now specified in the laws of practically all states as the basis for the legal minimum standards for calculating policy reserves and nonforfeiture values (i.e., cash and other surrender values) for all policies issued since Jan. 1, 1948. Table 4-2, the C.S.O. Table, will be used to explain some of the features of a mortality table.

The C.S.O. Table shows the "life history" of a group of 1 million children living at age one. The column headed "number living" shows, at each age, the number out of the original million who survive to that age. The column headed "number dying" shows the numbers who die at each age. The number dying at any age is the difference between the number who survive to that age and the number who survive to the next age. For example, the number dying at age thirty, 3,292, is the difference between 924,609 and 921,317, the numbers surviving to age thirty and age thirty-one, respectively.

The column headed "rate of mortality per 1,000" shows the death rates, or *proportions* dying, at each age (per 1,000 living). Thus, the death rate per 1,000 at age thirty, according to this table, is 3.56. This figure can be obtained by dividing the number of deaths at age thirty (3,292) by the *number of thousands* who survive to age thirty (924.609).

The rates of mortality were not, however, obtained in that way. It would be impossible to find 1 million children all exactly age

TABLE 4-2. COMMISSIONERS' 1941 STANDARD ORDINARY MORTALITY  
TABLE (C.S.O. TABLE)

Age	Number living	Number dying	Rate of mortality per 1,000	Age	Number living	Number dying	Rate of mortality per 1,000
1	1,000,000	5,770	5.77	51	800,910	10,628	13.27
2	994,230	4,116	4.14	52	790,282	11,301	14.30
3	990,114	3,347	3.38	53	778,981	12,020	15.43
4	986,767	2,950	2.99	54	766,961	12,770	16.65
5	983,817	2,715	2.76	55	754,191	13,560	17.98
6	981,102	2,561	2.61	56	740,631	14,390	19.43
7	978,541	2,417	2.47	57	726,241	15,251	21.00
8	976,124	2,255	2.31	58	710,990	16,147	22.71
9	973,869	2,065	2.12	59	694,843	17,072	24.57
10	971,804	1,914	1.97	60	677,771	18,022	26.59
11	969,890	1,852	1.91	61	659,749	18,988	28.78
12	968,038	1,859	1.92	62	640,761	19,979	31.18
13	966,179	1,913	1.98	63	620,782	20,958	33.79
14	964,266	1,996	2.07	64	599,824	21,942	36.58
15	962,270	2,069	2.15	65	577,882	22,907	39.64
16	960,201	2,103	2.19	66	554,975	23,842	42.96
17	958,098	2,156	2.25	67	531,133	24,730	46.56
18	955,942	2,199	2.30	68	506,403	25,553	50.46
19	953,743	2,260	2.37	69	480,850	26,302	54.70
20	951,483	2,312	2.43	70	454,548	26,955	59.30
21	949,171	2,382	2.51	71	427,593	27,481	64.27
22	946,789	2,452	2.59	72	400,112	27,872	69.66
23	944,337	2,531	2.68	73	372,240	28,104	75.50
24	941,806	2,609	2.77	74	344,136	28,154	81.81
25	939,197	2,705	2.88	75	315,982	28,009	88.64
26	936,492	2,800	2.99	76	287,973	27,651	96.02
27	933,692	2,904	3.11	77	260,322	27,071	103.99
28	930,788	3,025	3.25	78	233,251	26,262	112.59
29	927,763	3,154	3.40	79	206,989	25,224	121.86
30	924,609	3,292	3.56	80	181,765	23,966	131.85
31	921,317	3,437	3.73	81	157,799	22,502	142.60
32	917,880	3,598	3.92	82	135,297	20,857	154.16
33	914,282	3,767	4.12	83	114,440	19,062	166.57
34	910,515	3,961	4.35	84	95,378	17,157	179.88
35	906,554	4,161	4.59	85	78,221	15,185	194.13
36	902,393	4,386	4.86	86	63,036	13,198	209.37
37	898,007	4,625	5.15	87	49,838	11,245	225.63
38	893,382	4,878	5.46	88	38,593	9,378	243.00
39	888,504	5,162	5.81	89	29,215	7,638	261.44
40	883,342	5,459	6.18	90	21,577	6,063	280.99
41	877,883	5,785	6.59	91	15,514	4,681	301.73
42	872,098	6,131	7.03	92	10,833	3,506	323.64
43	865,967	6,503	7.51	93	7,327	2,540	346.66
44	859,464	6,910	8.04	94	4,787	1,776	371.00
45	852,554	7,340	8.61	95	3,011	1,193	396.21
46	845,214	7,801	9.23	96	1,818	813	447.19
47	837,413	8,299	9.91	97	1,005	551	548.26
48	829,114	8,822	10.64	98	454	329	724.67
49	820,292	9,392	11.45	99	125	125	1,000.00
50	810,900	9,990	12.32				



one or, if such a group could be found, to trace its history year by year until all were dead and thus to complete the columns of "number living" and "number dying." The actual procedure (as indicated at the beginning of this chapter) is to obtain first the *rates of mortality* at each age from the "exposures" and "deaths" in the actual experience. These rates are then smoothed out (or *graduated*) by a mathematical process to eliminate the accidental irregularities owing to the comparatively small numbers involved. The smooth table of death rates thus obtained is the mortality table—the other columns ("number living" and "number dying") are supplementary.

The "number living" and "number dying" columns are obtained by selecting an *arbitrary* large number (in this case, 1 million) as a starting point at the lowest age and using the previously ascertained rates of mortality to complete the two columns. Such a large number is used in order to avoid fractional "numbers living" at the highest ages. Thus, since the rate of mortality at age one is 5.77 per 1,000, the number of deaths at that age out of 1 million (1,000 thousands) will be 5,770. The number who survive to age two is, therefore, 1 million less 5,770, or 994,230. The number of deaths at age two will be obtained in the same way, by multiplying the death rate per 1,000 at age two, 4.14, by 994,230, giving 4,116 deaths, and so on until the whole table is completed.

The arbitrary large number (1 million) selected for the number living at the lowest age is called the "radix" of the mortality table. If a different radix were used (such as 500,000) all the figures in the "number living" and "number dying" columns would be changed, but the rates of mortality would not be changed.

In the case of the C.S.O. Table, the highest age reached by anyone is ninety-nine. The number reaching that age (out of 1 million living at age one) is 125, all of whom die before reaching one hundred. Actually, where such large numbers are involved, the experience probably was that a few persons did live beyond age one hundred. The arbitrary termination of the table by assuming that no one reaches age one hundred is for practical purposes and has no significant effect on premium rates, etc. The age by which all are assumed to be dead (one hundred in this case) is called the *limiting age* of the table.

Another point which the reader will observe is that the death rates per 1,000 are not in whole numbers but in whole numbers and fractions. For example, when we say that the death rate per 1,000 at age thirty, by this table, is 3.56, we mean that the number of deaths in a year out of 1,000 living will *average* 3.56, this having been the annual (adjusted) *average* according to the experience upon which the table was based.

Sometimes a mortality table has an additional column showing the "expectation of life" or "life expectancy" at each age. The figure in this column opposite any age is the *average* number of years of life lived after attaining that age by all who reach that age. "Expectation of life" is a misleading term since it has no significance whatever for any individual and does not show the probable future lifetime of an individual. The probable future lifetime of any individual depends on his state of health and may be greater or less than the average. It is quite commonly supposed that life-insurance companies make their calculations of premium rates, etc., on the assumption that everyone will live for the period of his "life expectancy." That is not the case, as will be explained in the following chapters. In fact, the only practical use of the "expectation of life" is for the purpose of comparing one mortality table with another.

*The 1941 Standard Industrial Table.* Since there is no medical examination and, in general, there is less rigorous selection for industrial insurance (i.e., insurance of small amounts, generally on a weekly- or monthly-premium basis) than for ordinary insurance, and since industrial policyholders are quite different in regard to occupational classifications and in other respects, a mortality table based on ordinary insurance experience would not be suitable as a basis for industrial-insurance operations.

maintained a continuous mortality investigation on the basis of their combined experience. The statistics so obtained are used periodically by the mortality committee of the Society of Actuaries to construct *basic tables*. The main purpose of these tables is to study the trend of mortality rates. It is not practicable or necessary to make frequent changes in the mortality tables used for premium calculations and other practical purposes. Such changes are made only at long intervals.

**Mortality Tables for Annuities.** A mortality table based on life-insurance experience is not suitable for use in connection with annuities. One reason for this is that most annuities (at least those purchased by single premiums for immediate income) are issued at relatively high ages and are purchased, as a rule, only by persons who are in good health. Thus, at the higher ages, the rates of mortality experienced among annuitants are generally lower than among life-insurance policyholders, many of whom are not in good health. A life-insurance mortality table would overstate the mortality rates to be expected among annuitants and thus would not be an adequate basis for annuity premiums and reserves.

Another reason why none of the existing standard insurance mortality tables would be suitable for annuities is that the insurance tables do not differentiate between males and females. Such a differentiation is not necessary for insurance purposes. Although females are subject to lower rates of mortality than males, the proportion of females insured to males and females combined is quite small (usually not more than 10 or 15 per cent), and it is therefore usual to ignore the difference in mortality, the same rates of premium being charged for women as for men. A further justification for this practice lies in the fact that the amount of the average insurance policy issued to women is substantially lower than that issued to men, with, consequently, a higher rate of expense per \$1,000 insurance.

The situation in regard to annuities is quite different. Women form a large proportion of all annuitants. The difference in mortality rates is substantial, the rates experienced among women being roughly the same as among men four or five years younger. Annuity premiums which would be sufficient for men would be

quite inadequate for women, while those sufficient for women would be excessive for male annuitants. Separate mortality tables are therefore necessary.

Another very important difference is that the constant improvement (reduction) in mortality rates which has been experienced at all ages and among all classes of persons provides a gradually increasing margin of safety for life insurance but has the opposite result in the case of annuities. There is no need frequently to change the mortality table used for insurance purposes. The American Experience Mortality Table remained in general use for about 100 years. New annuity mortality tables reflecting the lower rates experienced must be adopted more frequently. In fact, it is now generally recognized that no mortality table based on past experience among annuitants can safely be used and that what is required is a table which will show the (lower) rates of mortality to be expected in future rather than the rates which have been experienced in the past. The construction of such a "projected" mortality table is a difficult and highly technical task. Annuity mortality tables of that kind have been constructed and, since about 1950, have come into general use. A brief description of the principal annuity mortality tables which have been, or are being, used follows.

*McClintock Tables.* The McClintock Tables were the first American annuity mortality tables. They were constructed in 1896 by Emory McClintock, actuary of the Mutual Life Insurance Company of New York, from the experience of 15 American companies. A substantial part of the experience related to annuities issued in foreign countries since at that time little annuity business had been done in America. The McClintock Tables were never a safe or satisfactory basis for annuities in the United States, but, largely because of the unimportance of annuity business, they remained in general use for about 20 years, with the result that "mortality losses" (largely offset by interest gains) were experienced by most, if not all, companies using them. These tables are now entirely obsolete.

*American Annuitants Mortality Tables.* The American Annuitants Mortality Tables, published in 1918, were based on annu-

ities issued in the United States by 20 American companies. As expected, they showed much lower mortality rates, both for males and females, than the McClintock Tables. Increased annuity premium rates based on these tables were generally adopted about 1920.

*The Combined Annuity Mortality Table.* The Combined Annuity Mortality Table was a special table constructed primarily for use in connection with *group* annuities and published in 1928. At the lower ages the mortality rates are based on the experience among clerical workers insured under group-life-insurance policies. At the higher ages the mortality rates are those of the American Annuitants Mortality Tables. This "combined" table was adopted for general use to a considerable extent in the period from about 1928 to 1938.

The Combined Table introduced a new device for avoiding the need for separate tables for men and women. The assumption was made that, for all practical purposes, the rates of mortality among women could be taken as equal to those for men at an age four years younger. This "4-year setback" was reasonably accurate at most ages, and the assumption simplifies not only the construction of the tables, but also many of the other calculations, such as for premium rates and reserves, which have to be made in connection with annuities.

*The 1937 Standard Annuity Table.* The 1937 Standard Annuity Table, constructed in much the same manner as the Combined Table, was prepared in 1938. It showed generally lower rates of mortality. In this table, the rates of mortality for female annuitants are the same as those for men at an age *five* years younger. This table was very widely adopted by the companies and was also made the basis of the minimum reserve standard (for annuities subsequently issued) in some states. It is the minimum basis in the Standard Valuation Law adopted in or since 1948 by practically all states.<sup>4</sup>

*Tables Based on Projections of Future Experience.* In the 10 years following the publication of the 1937 Standard Annuity Table, mortality rates continued to decrease. Allowance was made

<sup>4</sup> See Chap. 6.

for this by using age "setbacks"; i.e., the 1937 Standard Table was continued in use, but the rates shown in the table were assumed to apply at higher actual ages. Setbacks of 1 to 4 years were used by some companies during this period.

In 1949, W. A. Jenkins and E. A. Lew published a new table, The Annuity Table for 1949, together with projection factors on different bases which could be applied to the basic (1949) table to make allowance for future reduction in mortality rates. The construction and use of such projected tables is too technical to be discussed here. Tables formed in this way are now in general use.

**Mortality Tables Based on Population Statistics.** From the description which has already been given of the general method of constructing a mortality table from the experience of a life-insurance company, it will be seen that a mortality table could be constructed on similar principles from records other than those of life-insurance companies. For example, important mortality tables have been based on the experience of the general population. In these tables, the "number of lives insured" is replaced by the "number of persons living," these numbers being obtained from census records. The number of deaths at each age is obtained from the official records of deaths, and the rate of mortality at any age is calculated as before by dividing the number of deaths by the number of living. Such a table would, of course, be unsuitable for use by a life-insurance company, at any rate, for "ordinary" business. Insured lives form a select group, from which, originally, those lives subject to abnormally high rates of mortality have been eliminated by medical examination and by other means of selection. The population table, on the other hand, is the experience of a large nonselect group which includes many persons in bad health, many engaged in unhealthful occupations, and others who would, for one reason or another, be ineligible for life insurance. It is, therefore, to be expected that the rates of mortality in a table constructed from population records will be higher, age for age, than the rates of mortality in a table based on the experience of an insurance company.

The rates of mortality among the general population in certain

parts of this country are shown in the United States Life Tables, which are prepared periodically by the U.S. Bureau of the Census. Until 1910 these tables were based on the census and death records of the original registration states only, which are nearly all in the northeastern section of the country. The most recent tables cover the whole country.

The United States Life Tables contain separate tabulations for male and female lives, each being further subdivided to show the rates of mortality among white persons and colored persons, among native-born and foreign-born, and among those residing in cities and those residing in rural districts.

Generally speaking, the rate of mortality is lower among females than among males. It is lower among white than among colored persons. In fact, the mortality rate among the colored is almost double that among whites for the greater part of life. This is accounted for, to a considerable extent, by the large proportion of the colored population engaged in unfavorable occupations or living in the less healthful parts of the country or in unfavorable surroundings. The rate of mortality is lower in rural districts than in cities. It is lower among foreign-born persons at the younger ages than among native-born, probably because these are the ages at which most immigration takes place, but in view of restrictions which have been placed on immigration in recent years this difference will tend to disappear.

**“Select” and “Ultimate” Mortality Tables.** Because of medical examination and other methods of selecting life-insurance policyholders, the rate of mortality at any age among a group of policyholders will depend on the time which has elapsed since their insurance was effected. Thus, there will be fewer deaths in the first year of insurance among policyholders insured at age thirty than among the same number of survivors of those insured 1 year ago at age twenty-nine and still fewer than among those insured 2 years ago at age twenty-eight. This saving owing to selection is temporary and will gradually diminish until it becomes imperceptible. Thus, there will probably be no material difference between the average rates of mortality among two large groups of policyholders of the same age, one of which was insured 10 years ago

and the other 11 years ago. For a short period, up to about 5 years, however, there will be a significant difference.

A *select* mortality table is one which shows the rate of mortality not only by age but also by "duration of insurance," i.e., time since selection. A complete select table would simply be a set of mortality tables, one for each age at issue. As stated above, the difference owing to selection becomes negligible in about 5 years so that, instead of a complete table for each age at issue, a select mortality table is usually constructed in the form shown in Table 4-3.

TABLE 4-3. SELECT MORTALITY TABLE —MORTALITY RATES PER 1,000

Age at issue	Year of insurance						Age attained
	1	2	3	4	5	6 and over	
20	2 73	3 59	3 80	3 96	4 13	4 31	25
21	2 78	3 66	3 86	4 01	4 18	4 35	26
22	2 83	3 72	3 91	4 06	4 21	4 39	27
23	2 86	3 76	3 96	4 08	4 24	4 41	28
24	2 91	3 80	3 99	4 11	4 26	4 43	29
Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.

The column headed "6 and over" shows the mortality rates at each attained age *after* the effect of selection has worn off (or has become negligible), i.e., the *ultimate* mortality rates, and this column constitutes an *ultimate mortality table*.

All the ordinary insurance mortality tables already referred to—the American Experience Table, the American Men Table, and C.S.O. Table—are ultimate tables. In their preparation the more favorable mortality experience during the *select* period was excluded. Such tables are more convenient to use than a select table and for practical reasons are also in some other respects more suitable. The difference between premium rates calculated by a select table and those calculated by the corresponding ultimate table would not be sufficient to justify the complications involved in the use of a select table. While, therefore, a select table is a



more accurate table for premium calculations (and, indeed, for most life-insurance purposes) it is customary to use ultimate tables. This avoids the necessity of constructing the much more voluminous monetary tables which would be required if all calculations were on a select basis.

One important use of select tables is for the tabulation of mortality experience for comparative purposes. Comparisons between companies or of the experience of different periods would evidently be vitiated unless account were taken of the relative proportions of new business and the lower rates of mortality experienced on recent issues. Of course, such comparisons can also be made on an ultimate basis if the data relating to recent issues are excluded. The *basic tables* referred to on page 80 are prepared in select form.

**Mortality Ratios.** Because of the effect of selection on the rates of mortality experienced in the earlier years of insurance, a comparison of the mortality experience of any particular company with that of another company which does not take into account the relative amounts of recently issued insurance in the two companies may be entirely misleading. For example, in a very young company, or in a company which has been issuing a relatively large amount of new insurance for some years, a higher than normal proportion of the total insurance in force is in the "select period" and is still subject to lower mortality rates, age by age, than those shown by an ultimate table. Consequently, an over-all ratio of the mortality experienced as compared with that "expected" (i.e., provided for) by an ultimate table does not furnish a fair basis of comparison with other companies in which the proportion of recent business is lower. The only proper basis for comparing the mortality experience of different companies is one which shows the mortality rates experienced both by age and by number of years since issue.

Another factor which tends to vitiate comparisons of the total or over-all mortality experience of different companies is the improvement in mortality experience which is going on all the time and is relatively greater at the lower than at the higher ages. Thus, a company which has a relatively high proportion of its business in force at lower ages should show a greater over-all saving as com-

pared with the mortality "expected" by the table used—which reflects the mortality experience of previous years.

Only a comparison of rates of mortality among those of the same age who have been insured for the same length of time, or among those of the same age who have all been insured for periods sufficiently long to have nullified the effect of selection, is of real value. However, where conditions in the same company (with regard to relative proportions of new and old business and distribution by age) in different periods are fairly stable or where two companies have a comparable distribution of business by age and duration, the total mortality ratio (total actual mortality divided by total "expected" mortality) may give a reasonably good measure of *relative* mortality experience.

**Trend of Mortality.** An examination of Table 4-4 will give a general idea of the nature and extent of the improvement in mortality rates which has taken place among insured lives during the last century. The improvement extends to all classes of the population and has been due principally to improvement in living conditions, to increased medical and surgical skill, to greater attention to sanitation and the public health generally, and, in the case of insured lives, to improved methods of selection. Each successive investigation shows some reduction in the rate of mortality. Since the publication of the C.S.O. Table there has been substantial further reduction in life-insurance mortality rates, particularly at the lower ages. The table shows that the improvement in mortality rates among insured lives has been much more marked at ages below fifty-five or sixty. This improvement is found largely in a *postponement* of deaths from the lower to the higher ages. There is little or no evidence of any material increase in the *total span* of life. Medical skill, although it has increased the *average* duration of life, has not succeeded in extending the *limiting age* of life, which is about one hundred years. It is true that the old, as well as the young, experience the benefits outlined. The numbers of the old are, however, now increased by those who have been kept alive and brought forward, as it were, to die at the higher ages. The inclusion of the latter class is an offset, so far as the rate of mortality is concerned, to the improvement among those who

TABLE 4-4. COMPARISON OF MORTALITY RATES BY VARIOUS TABLES  
(Rate of mortality per 1,000)

Age*	Life-insurance experience (ultimate mortality)				Population tables (white males) U.S. Life Tables	
	American Experience, 1843-1868	American Men, 1900-1915	C.S.O., 1930 1940	Standard Industrial, 1930 1940	1909-1911	1949-1951
15	7.63	3.46	2 15	2 86	2.83	1.05
20	7.81	3 92	2 43	3 93	4 89	1.62
25	8 07	4 31	2 88	4.73	5 54	1.71
30	8 43	4 46	3 56	5 39	6.60	1.82
35	8 95	4.78	4.59	6 58	8 52	2 48
40	9 79	5.84	6 18	8 71	10 22	3 91
45	11 16	7 94	8 61	12 32	12 64	6 37
50	13.78	11.58	12 32	17 55	15 53	10 12
55	18 57	17 47	17 98	24 75	21 50	15 87
60	26 69	26 68	26 59	36 08	30 75	23 81
65	40 13	40 66	39 64	53 33	43 79	34 45
70	61 99	61 47	59 30	74 56	62 14	50 27
75	94 37	91 94	88.64	106.26	92.53	74.99
80	144 47	135 74	131.85	153 65	135.75	109.93

Age†	Annuity experience (ultimate mortality)							
	McClintock, 1898		American Annuitants, 1918		Combined, 1928		1937 Standard	
	Male	Female	Male	Female	Male	Female	Male	Female
50	15.42	9 60	13 15	10 56	10 35	7 51	9 29	6 36
55	20 11	13 20	18 17	14 28	15 45	11 21	13.55	9 29
60	27.50	18 84	25 66	19 84	23 02	16 73	19 75	13 55
65	39 11	27 73	36 73	28 09	34 25	24 93	28 75	19 75
70	57 22	41 66	53 05	40 31	50 81	37 07	41 76	28 75
75	85 21	63 33	76 98	58 27	75 06	54 95	60 46	41 76
80	127 90	96 68	111 65	84 58	110 18	81 09	87 16	60 46
85	191 51	147 12	161.12	122 51	160 27	118 86	124 84	87 16

\* Rates are not shown at very high ages because these rates are largely artificial and are affected by the "limiting age" selected.

† Rates are not shown below age fifty since few annuities are taken below that age and mortality rates are not representative.

would, in any case, have lived to old age. It might seem that perhaps there is a natural limit to the span of life and that, while the influences mentioned may and, in fact, do enable many more nearly to attain that limit than formerly, they cannot, or at any rate do not, cause any appreciable extension of it.

**Some Common Fallacies about Mortality Rates and Tables.** Figures showing the increase in the "expectation of life" are apt to be misleading. For example, according to the United States Life Tables the expectation of life at birth (total population) has increased in the past 25 years from about fifty years to about sixty-eight years. A very large part of this increase in the *average* length of life has resulted from the improvement in infant mortality, which adds a great many years of life to the total making up the average. This improvement thus increases the *average* length of life very materially and would increase it even if there had been no improvement in mortality rates at higher ages and no increase in the average age at death. There has, however, been some improvement at all ages, but there is not the least likelihood that the limiting age of human life will be increased from about one hundred to, say, one hundred and fifty or two hundred, as is sometimes seriously suggested on the basis of past increases in the *average*. One factor which is generally overlooked is that there is now less room for improvement than formerly, particularly in the early years of life. In other words, with the low rates of mortality now prevailing, only a limited further reduction is possible.

While a few individuals reach unusually high ages, sometimes exceeding one hundred years, these cases are rare. Reports of persons living at ages over one hundred should be accepted with caution. Where such a high age is claimed, there is often no evidence to sustain the claim. Most of the cases of extreme longevity are reported from such places as Central Africa or China and are obviously fictitious. The very old, particularly those belonging to the more ignorant classes of the community, are inclined to exaggerate their ages. A striking illustration of this is to be found in the United States Life Tables. These tables show, *inter alia*, the rates of mortality at each age for white males and colored males and also for white females and for colored females. Through-

out nearly the whole of life the mortality rate among the colored is in excess of that among whites but, according to the records, it appears that more colored persons, both male and female, reach the highest recorded ages than white persons. The probability is that this is not really the case but rather that the ages of colored persons have not been so correctly recorded as have those of whites. In fact, the rates of mortality shown at ages between one hundred and one hundred and ten in all classifications indicate that there is probably considerable exaggeration in this respect among all old persons whether white or colored.

Another common error relates to the crude death rates (i.e., the total death rates per 1,000 population) of different cities or localities. Comparisons of these crude rates are sometimes made with a view to demonstrating that one particular city or locality is more healthful than another. For example, a New York newspaper, in referring to figures published by the U.S. Census Bureau, stated, "Akron is the healthiest city in the United States with a death rate of 7.5 (per thousand). Memphis has the highest of any city—17.4." It is quite wrong to assume that these figures give any idea of the relative healthfulness of these two cities. Memphis is an old city in a part of the country which has long been settled. Akron is a young city much more recently developed. There are undoubtedly more old persons per 1,000 of population in Memphis than in Akron, and it cannot be determined from the total death rate per 1,000 which of the two is the more healthful. This can be more clearly shown by a simple illustration which makes use of the mortality table. Suppose there are two cities, the first of which has a population of 1 million persons all twenty years of age and the other a population also of 1 million but all sixty-five years of age. Suppose, further, that the normal rate of mortality is that shown by the United States Life Tables and that the first city is so unhealthful that it has double the normal number of deaths while the second is so healthful that it has only half the normal number of deaths. Table 4-4 indicates that the number of deaths in the first city would, in those circumstances, be 3,240; in the second city, 17,225. The crude death rates of the two cities would, therefore, be 3.24 and 17.2 per 1,000, respectively, and in the absence of a knowledge

of the facts it might be supposed that the former was more healthful than the latter, whereas the reverse is the case. Of course, these figures are extreme, but they illustrate the nature of a very common error. The same error is usually involved in the comparison of the mortality ratios of two insurance companies. In making comparisons of any kind it is essential that all relevant facts be taken into account. This is particularly true in regard to comparisons relating to life-insurance companies, where many factors may affect the validity of the comparison. Illustrations of this fact will appear in later chapters.

### REVIEW QUESTIONS

1. Define "rate of mortality."
2. Explain how the "number living" and "number dying" figures shown in a mortality table are obtained from the actual rates of mortality at each age.
3. State three different sources from which the information needed to construct a mortality table may be obtained.
4. What are the principal mortality tables which have been used by life-insurance companies for (a) life-insurance calculations? (b) annuity calculations? From what source was each drawn?
5. Can the same tables be used for life insurance and annuities? Why?
6. Explain briefly the nature of (a) a "select" mortality table; (b) an "ultimate" table.
7. Why are tables derived from population statistics unsuitable for life-insurance purposes?
8. Comment on the following statement: "Company A, which had total death claims of 55 per cent of those 'expected' by the mortality table, had a much better mortality experience than Company B, in which the ratio was 70 per cent."

## Premium Rates

The premium is the consideration which the person insured pays to the insurance company for a life-insurance policy. The premium may be a single payment but is usually an annual payment, either for life or for a limited term of years, depending on the kind of policy selected. An annual premium may be payable in semiannual, quarterly, or monthly installments. The word "installments" is used here because until a few years ago it was the universal custom to calculate all life-insurance premiums on an annual basis so that, where premiums were paid otherwise than annually, any unpaid "installments" for the policy year current at death were an indebtedness deductible from the amount of insurance. The usual practice now is to compute semiannual, quarterly, and monthly premiums on a basis which does not treat such premiums as installments of an annual premium and which does not require payment of any "fractional premiums" which would have been payable after the date of death. On this basis, the premium required is, of course, slightly greater than on the "installment" basis.

The elements which enter into the calculation of premium rates for a life-insurance policy are (1) the rate of mortality, (2) the rate of interest, and (3) the rate of expense, in which is included any provision for contingencies not covered by the margin expected from the mortality and interest rates assumed.

The first two elements, the rate of mortality and the rate of interest, determine the amount of the *net premium*. The net premium is that premium which *in the aggregate* will be sufficient to pay all claims on the assumptions that deaths take place exactly according to the mortality table adopted as a basis for calculation

and that the net premiums will be invested so as to yield the rate of interest assumed in the calculations. The net premium provides for the amount payable as the proceeds of the policy as a claim by death, by maturity as an endowment, or upon surrender. It does not provide for expenses of operation or for contingencies. However, if, as is usually the case, the assumptions made about future rates of mortality and interest are conservative, "profits" will arise which will be available for other purposes such as expenses, contingencies, and refunds ("dividends")<sup>1</sup> to policyholders. Theoretically, however, the net premium provides only for the contractual policy benefits.

The procedure in constructing a table of premium rates for practical use is first to calculate the net premiums and then to add to these the amounts considered necessary to cover expenses and contingencies and, in the case of stock companies, profit. The total amount so added to the net premium is the *loading*. The net premium increased by the loading is the *gross premium*, which is the premium payable by the policyholder.

In determining both net premiums and gross premiums for practical use, a distinction must be observed between premiums for participating policies and those for nonparticipating policies. In the case of participating policies the cost to the policyholder is not determined by the premium rate but by the gross premium *less* any refunds or "dividends" which may become payable. Consequently, although the premium rate should not be so high as to be excessive or out of line with corresponding premium rates in other companies, it will normally be somewhat higher than is considered necessary for safety. The mortality table and the rate of interest used to calculate the *net* premium will both be chosen on a basis which provides some margin. A table of mortality will be used which shows mortality rates higher than those actually expected and a rate of interest assumed which is less than the rate deemed likely to be earned. The amount of loading for expenses and contingencies will normally be on a conservative basis. This does not mean that the policyholder is being overcharged. An

<sup>1</sup> Dividends are discussed in Chap. 7.



annual adjustment is made, through the payment of dividends, which results in a "net cost" corresponding approximately to the actual experience of the company with regard to mortality, interest, and expense.

In the case of nonparticipating policies, the premium payable determines the actual cost to the policyholder since there are no refunds or dividends. Therefore, it must be computed on a realistic basis, i.e., on assumptions as to mortality, interest, and expense which reflect fairly closely the expected experience in all three respects. Some margin of safety must be provided in the assumptions used in computing premiums for nonparticipating policies, but competition will prevent the use of excessive margins.

We shall now proceed to explain the method of calculating *net* premiums on the basis of a specified mortality table and rate of interest. These calculations are made in the same way whether the policy is participating or nonparticipating.

**Net Single Premiums.** Although single-premium policies are of minor importance, we shall, for simplicity, explain first the calculation of net *single* premiums, since the calculation of the net *annual* premium is based upon the net single premium for the same kind and amount of insurance. In all theoretical work, such as the calculation of net premiums, it has been usual to assume that death claims are paid at the *end* of the policy year in which death occurs. This is not in accordance with the facts, since claims are paid immediately upon proof of death and title, and the policy contract generally so provides. The assumption that payment of claims is made at the end of the year of death, however, simplifies the calculation of premiums, and it is an easy matter to adjust the actual premium rates to allow for the immediate payment of claims. As death takes place on the average in the middle of the policy year, and as a period of about 1 month, on the average, elapses between the date of death and payment of claim, the adjustment for immediate payment of claims should be an amount sufficient to provide for about 5 months' loss of interest on the sum insured.

The practice of calculating premium rates with allowance for immediate payment of claims is becoming more general, but for

present purposes and for simplicity we shall assume the more common (and formerly universal) practice of assuming that claims are paid at the end of the policy year in which death occurs.

The first step is to select a suitable mortality table and rate of interest. For purposes of numerical illustration the C.S.O. Table with interest at  $2\frac{1}{2}$  per cent will be used. That is the basis used by a number of companies at the present time in calculating net premiums for participating policies.

The figures below, taken from a compound-interest table, provide one of the two elements of the first illustrative calculation.

PRESENT VALUE OF \$1 AT  $2\frac{1}{2}$  PER CENT

<i>Number of years</i>	<i>Present value of \$1 due in number of years stated</i>
1	\$0.9756
2	0 9518
3	0 9286
4	0 9060
5	0 8839

The table shows that \$0.9756, or about  $97\frac{1}{2}$  cents, invested for 1 year at  $2\frac{1}{2}$  per cent interest will amount to \$1 at the end of the year; that \$0.9518, or about 95 cents, invested for 2 years at  $2\frac{1}{2}$  per cent compound interest will amount to \$1 at the end of that time; and so on. Another way of explaining the table is to say that, to have \$1 at the end of 5 years, for example, it is sufficient to have \$0.8839, or about  $88\frac{1}{2}$  cents, now, provided that amount can be invested at  $2\frac{1}{2}$  per cent compound interest during the 5 years. The expression "present value" used here will occur frequently. The present value of a sum of money payable at a future time is the amount of money which, if invested now, will accumulate to the required sum at the time when the latter is to become payable. Thus, from the table, 88.39 cents is the present value at  $2\frac{1}{2}$  per cent of \$1 due in 5 years.

*One-year-term Policy.* As a first example, the net single premium required to provide term insurance for 1 year on the life of a per-

son aged thirty will be calculated. Table 4-2 indicates that, out of 924,609 persons who attain age thirty, 3,292 die before reaching thirty-one. If a 1-year-term policy of \$1,000 should be issued upon attainment of age thirty to each of 924,609 persons and *if the actual death rate among them should be the same as that shown by the table*, the death claims would amount to \$3,292,000.<sup>2</sup> Although these claims will occur throughout the year, it is assumed in calculating the premium that all will be paid at the end of the year, i.e., the "policy year," or year of insurance. Referring to the interest table, we find that in order to have that amount at the end of the year it would be necessary to have \$3,211,675 ( $\$3,292,000 \times 0.9756$ ) at the beginning of the year, since \$3,211,675 together with 1 year's interest at  $2\frac{1}{2}$  per cent equals \$3,292,000. Since it is not known at the beginning of the year which of the 924,609 persons insured will die, each must pay the same share, or "premium." This share would amount to \$3.47 ( $\$3,211,675 \div 924,609$ ), which is therefore the net single premium for term insurance for 1 year at age thirty, according to the C.S.O. Table, with interest at  $2\frac{1}{2}$  per cent.

The same result may be obtained by a different method. The average number of persons who die in a year out of each 1,000 living at age thirty is 3.56 (the rate of mortality). If it were a *certainty* that all would die within 1 year, the amount of the single premium required from each would be \$1,000 discounted for 1 year at  $2\frac{1}{2}$  per cent, or \$975.60; but as only 3.56 out of each 1,000 policies will, on the average, become payable, that amount (\$975.60) may be reduced in the proportion which 3.56 bears to 1,000, i.e., to  $(3.56/1,000) \times \$975.60$ , which is found to be the same as before, \$3.47.

*Whole-life Policy.* The single premium for term insurance for 2 years could be obtained by a similar process, but it is desirable to proceed at once to the calculation of the net single premium for whole life insurance, which, on the basis of the C.S.O. Table, is

<sup>2</sup> The reader should remember that all calculations of this character depend upon *large numbers*, i.e., upon a sufficiently broad basis of operation to ensure average results.

equivalent at age thirty to a 70-year term insurance continuing to the extreme age of the mortality table. In order to reduce the amount of arithmetical calculation the net single premium will be calculated, for purposes of illustration, at age ninety-five instead of age thirty. Of course, policies are not issued at age ninety-five, but the procedure in calculating the premium at that age, if such a policy were issued, would be precisely the same as if the age were thirty, though the figures involved are much smaller and the arithmetical work is much shorter. For convenience of reference an extract from the mortality table is given in Table 5-1.

TABLE 5-1. EXTRACT FROM MORTALITY TABLE

Age	Living	Dying
95	3,011	1,193
96	1,818	813
97	1,005	551
98	454	329
99	125	125

As before, the premium will be determined by assuming that a policy of \$1,000 is issued to each of the 3,011 persons living at age ninety-five. During the first year, 1,193 persons die. The amount required at the *end* of the first year to pay death claims occurring in the first year is, therefore, \$1,193,000. Hence \$1,163,891 ( $\$1,193,000 \times 0.9756$ ) must be collected at the outset to provide for claims of the first year. In the same manner, at the end of the second year \$813,000 will be required to pay the claims then due, and there must, therefore, also be collected *now* since we are calculating the *single* premium) \$773,813 ( $\$813,000 \times 0.9518$ ) to provide for the second-year death claims. Continuing in the same way, we may calculate the respective amounts which must be paid now in order to make it possible to meet the death claims of the third, fourth, and fifth years. By adding together these amounts and dividing the total by 3,011 (the number of lives to be insured) the total single premium to be paid in by each is ascertained. Table 5-2 shows the calculation in detail:

TABLE 5-2. CALCULATION OF NET SINGLE PREMIUM FOR WHOLE-LIFE POLICY FOR \$1,000. AGE NINETY-FIVE. C.S.O. TABLE 2½ PER CENT

Year	Number living	Death claims	Present value of \$1	Present value of death claims
(1)	(2)	(3)	(4)	(3) × (4)
1	3,011	\$1,193,000	\$0 9756	\$1,163,891
2	1,818	813,000	0 9518	773,813
3	1,005	551,000	0 9286	511,659
4	454	329,000	0 9060	298,074
5	125	125,000	0. 8839	110,488

Total single premiums . . . . . \$2,857,925

Net single premium per person insured—

\$2,857,925 ÷ 3,011. . . . . \$ 949 16

*Endowment-insurance Policy.* The net single premium for an endowment-insurance policy is calculated in the same manner as has just been shown for single-premium term or whole life insurance. Thus, to calculate the net single premium for a 5-year endowment-insurance policy at age thirty-five<sup>3</sup> it would first be necessary to calculate, by means of mortality and interest tables, the amounts necessary to provide for the death claims payable in each of the 5 years on the assumption that all the 906,554 persons living at age thirty-five took such policies; i.e., there would be added together the discounted value of \$4,161,000 due in 1 year, \$4,386,000 due in 2 years, and so on, up to and including \$5,162,000 due in 5 years. To the total there would then be added the discounted value of the amount payable to those who survive the period of 5 years and whose endowments "mature," that is, \$1,000 for each of the 883,342 persons who attain age forty. The grand total so obtained would then be divided equally among the 906,554 persons insured, the result being the net single premium required. The procedure will be easily understood from the detailed calculation given in Table 5-3.

<sup>3</sup> An unusually short endowment period is selected for purposes of illustration merely to shorten the arithmetical work.

TABLE 5-3. CALCULATION OF NET SINGLE PREMIUM FOR 5-YEAR ENDOWMENT-INSURANCE POLICY FOR \$1,000. AGE THIRTY-FIVE. C.S.O. TABLE, 21 $\frac{1}{2}$  PER CENT

Year	Number living	Deaths claims	Present value of \$1	Present value of death claims (3) $\times$ (4)
(1)	(2)	(3)	(4)	(3) $\times$ (4)
1	906,554	\$4,161,000	\$0 9756	\$4,059,472
2	902,393	4,386,000	0 9518	4,174,595
3	898,007	4,625,000	0 9286	4,294,775
4	893,382	4,878,000	0 9060	4,419,468
5	888,504	5,162,000	0 8839	4,562,692

Total required for death claims . . . . . \$ 21,511,002

Required for 883,342 maturing endowments,  
\$883,342,000  $\times$  0.8839 . . . . . 780,785,994

Total single premiums . . . . . \$802,296,996

Net single premium per person insured—  
\$802,296,996  $\div$  906,554 . . . . . \$885

**Net Annual Premiums.** The calculation of the net annual premium is more complicated. In practice, the methods described in Appendix A are used. For the nonmathematical reader the explanations here given will be sufficient to show the general nature of such calculations.

An annual premium is, in effect, a *life annuity* payable by the policyholder to the company. The first step in calculating annual premiums is to determine the present value of (i.e., net single premium for) a life annuity of \$1 per annum. A life annuity is an annual payment to continue during life. If the value of a life annuity of \$1 is known, it is possible to determine by simple proportion, or "rule of three," the amount of the annual premium equivalent to any given single premium.

Life-insurance premiums are payable in advance (i.e., at the beginning of each policy year), so the first step is to determine the present value of a life annuity of \$1 per annum payable in ad-

vance each year during life and ceasing with the payment made at the beginning of the year in which death occurs. As before, in order to reduce the arithmetical work a high age will be used for the illustrative calculation. The procedure is exactly the same for any age. If each of the 3,011 persons attaining age ninety-five pays \$1 at once and \$1 at the beginning of each year of age attained prior to death, the *total* amount received from all would be, at the beginning of the first year, \$3,011; at the beginning of the second year, \$1,818; at the beginning of the third year, \$1,005; at the beginning of the fourth year, \$454; at the beginning of the fifth year, \$125. The present, or discounted, value of these payments is shown in Table 5-4.

TABLE 5-4. PRESENT VALUE OF \$1 ANNUAL PREMIUMS

Year	Amount received at <i>beginning</i> of year	Present value of \$1	Present value
1	\$3,011	\$1 0000	\$3,011 00
2	1,818	0 9756	1,773 64
3	1,005	0 9518	956 56
4	454	0 9286	421 58
5	125	0 9060	113 25
Total present value. . . . .			\$6,276 03

The total value shown above, \$6,276.03, is also the amount which would be sufficient to provide a payment of \$1 to each of the 3,011 persons living now and a further payment of \$1 per year thereafter annually to each of the survivors on each anniversary until all are dead. The amount necessary *on the average* to provide this annuity for *each one* of the 3,011 persons is therefore \$2.08 ( $\$6,276.03 \div 3,011$ ). This latter amount, \$2.08, is therefore the single sum which is equivalent in value to payments of \$1 per annum in advance during the lifetime of a person aged ninety-five and is therefore also the *single* premium at that age which corresponds in value to an *annual* premium of \$1.

It has already been seen that \$949.16 is the amount of the net single premium required at age ninety-five to provide a whole life insurance of \$1,000 payable at death. The required annual premium will therefore be the equivalent in dollars of the number of times \$2.08 is contained in \$949.16, that is,  $\$949.16 \div \$2.08$ , or \$456.33. In other words, the net *annual* premium is obtained by dividing the net *single* premium by the appropriate "annuity value" corresponding to the age and premium-paying period. The amount of the annual premium must be such that the total present value of all the annual premiums is the same as the amount of the single premium.

Net annual premiums for other kinds of policies are calculated on similar principles, but the arithmetical details are more complicated. Such calculations are made by the companies' actuaries.

Attention is again called to the fact that all the foregoing calculations are based on the following assumptions: (1) that death claims are paid at the *end* of the *policy* year in which death occurs and (2) that (in the case of annual premiums) a full annual premium is received for the year of death. In practice, the calculations now usually provide for "immediate payment of claims," i.e., for the fact that payment is not postponed until the end of the policy year in which death occurs, while in some companies the calculations are adjusted to provide for payment of only a pro rata premium in the year of death.

*Effect of Changes in the Mortality Table or the Rate of Interest.* The use of a mortality table showing lower rates of mortality (such as the C.S.O. Table instead of the American Experience Table) will, *in itself*, result in lower net premiums. That is so because the effect is that relatively fewer death claims are assumed to occur in the earlier years and at the lower ages. All of those insured must die eventually, whatever mortality table is used, but where the rates of mortality are assumed to be lower, the effect is that there is a general postponement of claims (as compared with the former assumption) so that more interest will be earned and a smaller premium will be required.

The assumption of a lower interest rate will increase net premiums (assuming no change in the mortality assumption) and the assumption of a higher interest rate will decrease them.



If both changes are made at the same time, i.e., if a table showing lower rates of mortality is adopted together with a lower interest assumption (as was done by many companies about 1940 when the C.S.O. Table with lower interest rates was generally adopted), the effect of the combined change on the net premium may be either an increase or a decrease, depending on the kind of policy and the age at issue. The net premiums for *term* policies (at least for those of relatively short periods) will be affected much more by the change in the mortality assumption than by the change in the interest assumption. On the other hand, endowment policies, particularly those for short periods, will be more affected by a change in the interest assumption. The effect of such changes depends on the relative importance of the *insurance* element and the *investment* element in the particular type of policy concerned.

Table 5-5 illustrates the effect of (1) a change from the American Experience Table to the C.S.O. Table, (2) a change in interest assumption from 3 per cent to  $2\frac{1}{2}$  per cent, and (3) both of these changes simultaneously, for policies on the ordinary-life, 20-payment-life, 20-year-endowment, and 10-year-term plans issued at ages 25, 40, and 55.

Table 5-5 shows: (1) that where the mortality table only is changed (from American Experience to C.S.O.) *all* net premiums are reduced, but that there is a proportionately greater reduction for policies with a low rather than a high investment element, i.e., those with a greater insurance element; (2) that where the interest assumption is reduced (without change of mortality table) *all* net premiums are increased, the increase being relatively greater for policies with a high investment element; (3) that where *both* changes are made, the net premiums for policies with a *low* investment element are, in many cases, reduced or only slightly increased, while those for policies with a *high* investment element are increased except at the low ages where the change in mortality basis has greatest effect.

On all plans, where the policy is issued at a low age the general effect of both changes is a *reduction* in net premiums. This is due both to the large difference in the mortality rates at low ages and to the larger insurance element in policies issued at low premium rates.

TABLE 5-5. COMPARATIVE NET PREMIUMS PER \$1,000

Age	American Experience Table		C.S.O. Table	
	3 per cent	2½ per cent	3 per cent	2½ per cent
Ordinary life				
25	\$16 11	\$17.26	\$13.34	\$14 60
40	24 75	26.11	23.25	24 65
55	45.54	47.03	44.55	46 01
20-payment life				
25	24 98	27 91	21 18	24.23
40	33 14	35 85	31 39	34 14
55	50 66	52 76	50 03	52 16
20-year endowment				
25	41 01	42 96	38 29	40 30
40	43 01	44.94	41.58	43 54
55	53 93	55 73	53.61	55 42
10-year term				
25	8.14	8 18	3 39	3 41
40	10 73	10 80	8.10	8 16
55	24 86	25 06	24 60	24 80

**The Loading.** As has been explained, an addition must be made to the net premium to provide for expenses of operation and for contingencies. In order to decide how this addition should be made, the nature of the expenses to be provided for must be considered. The expenses in connection with a life-insurance policy may be divided into (1) those which depend on the amount of the premium and (2) those which are independent of the amount of the premium. The chief items in the former class are commissions to agents and state taxes on premiums. Expenses which are in-

dependent of the amount of the premium may depend on the amount of insurance or may be independent of the amount of either premium or insurance. Thus the cost of medical examination and inspection is usually greater for a policy of large amount, although not directly proportionate to the amount, while the cost of keeping the policy records, the general administrative expenses of the home office, and so on are the same for every policy irrespective of the amount of insurance or the amount of the premium. Although theoretically desirable, it is impractical to vary the premium *rate* according to the amount of insurance except in broad amount groups. In general, therefore, in determining the method of loading, expenses must be considered in relation to the amount of the *average* policy. Thus, while the cost of a medical examination may be \$5, it is clearly not necessary to include that amount in the premium rate per \$1,000 of insurance. If the average policy is for, say, \$5,000, it will be sufficient to provide \$1 in the rate per \$1,000. This will result in sufficient amounts being received *in the aggregate* to take care of all the expenses of medical examination. It is true that this involves payment of a smaller amount than is necessary for this purpose by those who take policies for less than the average amount and a greater amount by those whose policies are greater than the average amount. A strictly correct treatment of expenses of this class would, in fact, involve a different scale of premium rates for each amount of insurance.

At the present time (1957) a few companies have adopted the principle of grading premium rates by broad amount groups, and it seems likely that this practice will be more generally adopted in the future.

It would appear then that, theoretically, the loading should consist partly of a percentage of the premium, partly of a constant amount for each \$1,000 of insurance, and partly of a constant amount for each policy. The last of these involves a premium scale graded by *amount* (in addition to age) and, as just stated, such a grading has not yet been generally adopted.

If the loading consists *only* of a percentage of the net premium and is the same for all ages and plans, the percentage which will be required at low ages for the lower-premium plans in order to

give a sufficient *amount* for expenses will produce a more than sufficient amount of loading at the higher ages or on the higher-premium plans. For example, on the ordinary-life plan, the net premium for insurance of \$1,000 at age twenty is \$12.49; at age sixty it is \$58.18 (C.S.O. Table,  $2\frac{1}{2}$  per cent). If these net premiums were "loaded" by adding 30 per cent, the amount of the loading would be \$3.75 at age twenty and \$17.45 at age sixty. Since only a part of the expenses depends on the amount of the premium, if the loading were on the basis stated and were sufficient at low ages it would be more than sufficient for policies taken at higher ages. An unvarying percentage, therefore, is not, theoretically at least, the most suitable basis for loading, although sometimes premiums for participating policies are loaded in that way, proper adjustment of cost being made in the dividend.

Again, if the loading were a constant *amount* per \$1,000 of insurance at all ages, it would have to be sufficient to cover the commission and other expenses depending on the premium at the highest age, and that amount would be much greater than the amount necessary at lower ages.

It will be seen, therefore, that, at least for participating policies (where accuracy in the assumptions is not essential), a logical and practical form of loading is a percentage of the premium *and* a constant amount per \$1,000. The percentage and the constant will not necessarily be the same for different plans of insurance. For example, commission rates generally vary by plan.

Another method of loading premiums for participating policies is that by which the loading for any specified plan is a percentage of the net premium for that plan and a percentage of the ordinary-life net premium. Variations of this system exist which are sufficiently accurate when used in conjunction with consistent dividend systems. The idea underlying such systems of loading will be seen from the following example:

Basis of loading: For ordinary life, 25 per cent of net premium; for limited-payment life,  $12\frac{1}{2}$  per cent of net premium and  $12\frac{1}{2}$  per cent of ordinary-life net premium; for endowment,  $6\frac{1}{4}$  per cent of net premium,  $6\frac{1}{4}$  per cent of limited-payment-life net premium (same number of premiums), and  $12\frac{1}{2}$  per cent of ordi-

nary-life net premium. The reader will note the apparently arbitrary character of such a rule but will remember that, for participating policies, the *amount* of the gross premium is not important as long as it is *sufficient* and provided that proper adjustment to the actual cost is made in the dividend scale through the use of an appropriate "expense factor." The loading for the ordinary-life plan under the method described is thus merely a "reasonable" loading of *sufficient* amount.

If we denote the respective net premiums at any given age for life, limited-payment-life, and endowment policies (the two latter providing for the same number of premiums) by  $A$ ,  $B$ , and  $C$ , the amount of loading under the method indicated in the preceding paragraph may be expressed as follows:

For ordinary life. . . . .	$\frac{1}{4}A$
For limited-payment life. . . . .	$\frac{1}{8}A + \frac{1}{8}B$
For endowment. . . . .	$\frac{1}{8}A + \frac{1}{16}B + \frac{1}{16}C$

The last two lines may be rewritten as follows:

Limited-payment life . . . . .	$\frac{1}{4}A + \frac{1}{8}(B - A)$
Endowment. . . . .	$\frac{1}{4}A + \frac{1}{8}(B - A) + \frac{1}{16}(C - B)$

In this form it is evident that this system of loading provides for limited-payment-life policies the same *amount* of loading as for an ordinary-life policy at the same age *plus* a smaller proportion of the *excess* of the limited-payment premium over the ordinary-life premium. Similarly, it provides for endowment policies the same *amount* of loading as for a limited-payment-life policy *plus* a still smaller proportion of the excess of the endowment net premium over the limited-payment-life net premium, in other words, the same amount of loading as for ordinary life plus reducing percentages of the successive excess amounts of the limited-payment and endowment net premiums. This is, in general, a reasonable basis since the *extra* expense on the higher-priced plans is almost entirely in the nature of a percentage of premiums, as for additional state premium tax and commissions, while the rates of commissions are generally lower on the higher-priced plans.

It has been stated that the object of the loading is to provide for expenses and contingencies. Actually, in the case of partici-

pating policies, the margins provided by conservative assumptions as to mortality and interest are at least equally important as a provision for contingencies. The amount necessary for expenses is approximately ascertainable, but the amount required to meet unforeseen contingencies, such as capital losses or failure to earn the rate of interest assumed, cannot be predicted. All companies accumulate a special fund for this purpose, which is made up of contributions from premium loadings and gains from favorable mortality experience, from excess interest earned over the rate assumed, and from other sources, such as capital gains on investments. The proper amount of the fund is largely a matter of opinion and depends to a considerable extent on the size of the company. Usually there is no *specific* part of the loading added for contingencies, but the amount, if any, to be added to the contingency fund is determined in the aggregate at the end of each year.

These methods of calculating the loading would not be suitable for nonparticipating policies. Consideration must be given not only to the actual amounts of expense but also to their distribution among different years of the policy's existence. This must be done in such a way as to provide a level loading which will be both an adequate and a reasonably accurate provision for all the expenses expected to be incurred. Such calculations are too technical to be discussed here.

The fact that premium rates for nonparticipating policies must (for practical and competitive reasons) be computed on realistic assumptions, i.e., without large safety margins, means that if conditions change adversely—for example, by a fall in the interest rate—the premium rates may prove to be deficient. The general tendency of mortality rates to improve operates as a safety factor. Conversely, improved conditions may justify a reduction in the rates for such policies. However, no change would be made in the premiums payable under existing policies, these being fixed by the contract. While, therefore, the nonparticipating plan may work very well when the rates of interest and mortality remain fairly stable over long periods, it will not work so well under changing conditions.

As has been explained, the rates of premiums for participating policies are usually based upon the assumption of conditions distinctly less favorable than are expected to be realized. In the past this has been true of all three factors in the premium rate. Thus, the interest assumption has generally been from  $\frac{1}{2}$  to as much as  $1\frac{1}{2}$  per cent less than the rate actually anticipated. In times of relatively high interest rates, as in the 1920s, when many companies were earning  $4\frac{1}{2}$  to 5 per cent on their investments, an interest assumption of 3 or  $3\frac{1}{2}$  per cent was common. More recently, as in the 1940s, when interest rates fell to around 3 per cent or less, the usual interest basis for new policies was  $2\frac{1}{4}$  or  $2\frac{1}{2}$  per cent. Many companies experienced interest losses on prior policies issued on an interest basis of 3 per cent or more.

As regards the mortality assumption, most companies continued until about 1947 to use the American Experience Table for participating policies, although that table greatly overstated the mortality rates at the lower ages. The need for adopting a more modern table with lower rates of mortality, although in many ways this would have been desirable, was not felt until it became necessary to reduce the interest assumption (which increases premium rates). As a result of this change, the C.S.O. Table has now universally replaced the American Experience Table as the mortality basis for policies currently being issued.

It is important to realize that changes in the basis and amount of premiums for participating policies do not in themselves mean a higher or a lower actual cost to the policyholder. The *net cost* to the policyholder (premium less dividend) will be determined by the rates of interest, mortality, and expense *experienced*, not by the rates *assumed* in calculating the premium. It is true that changes in the interest assumption or in the mortality table may change the *incidence* of the cost. A lower interest assumption, for example, will, in general, result in higher net costs in the earlier years and lower net costs later. The average or over-all net cost of participating insurance will not, however, be changed merely by changing the assumptions.

The same considerations indicate that the actual net cost in a company with relatively high participating premium rates (and

there is considerable variation among companies in this respect) will not necessarily be greater than in a company with lower gross premiums. It may, in fact, be less, since in both cases the actual cost will depend on experience. Relatively high gross premiums actually have important advantages, both to the company and to the policyholder; the most important of these is that they provide a greater safety margin which is available in time of need. Experience has shown that it is very desirable to have a substantial margin.

The provision of margins in premium rates is inherent in the mutual system and is, in fact, a source of strength and an advantage to the policyholder. If conditions should become so unfavorable as to equal those assumed, the premium would still be sufficient. Life-insurance companies must be prepared for the unexpected, such as epidemics, depressions, and wars, as well as for the possibility of capital losses, reduced interest earnings, or increased expenses such as result from a continued inflationary trend. The system of charging relatively high premium rates for participating policies is as nearly proof against the unknown events of the future as any system can be.

**Premiums Paid Otherwise than Annually.** Some people find it more convenient to pay premiums semiannually, quarterly, or monthly, instead of annually. The basic premium is the *annual* premium, and the method of calculation of the net premium usually (although not invariably) involves the assumption that a full annual premium will be paid for the year in which death occurs, as for every other year. Where premiums are paid otherwise than annually, the total amount paid per annum must be greater than the amount of the annual premium. This is necessary since not only does the company lose interest on that part of the premium which is not paid at the beginning of the policy year but administrative expense is increased with frequency of payment. The loss of interest is usually much less important than the additional expenses of collection, bookkeeping, etc. It is a common error to consider the addition to the annual premium for payment semiannually, etc., as being all for interest. Thus, if a company computes semiannual premiums by adding 3 per cent to the



annual premium and dividing the result by 2, it is sometimes asserted that the company is charging interest at the rate of 12 per cent—because the insured pays \$3 extra for the privilege of delaying payment of \$50 (out of an annual premium of \$100) for 6 months. The fact is that only a small part of the total extra charge is for interest; most of it is for the additional expense of collection and accounting.

Formerly, practically all life-insurance policies provided that, where premiums were paid other than annually, any *fractional* premiums required to complete payment for the policy year current at death would be deducted from the proceeds of the policy. Most companies now waive this deduction where the policy calls for it, and most policies now issued do not contain such a provision. Frequently this adjustment was not understood by the beneficiary, who considered that the company was improperly charging for insurance after the death of the insured. Sometimes it is claimed that where premiums are paid annually, there should be a pro rata refund of the “unearned premium” for the unexpired portion of the policy year current at death. However, if premiums have been calculated on an annual basis in the manner already described, the basic calculation assumes that a full annual premium will be paid for each year *entered upon*, and any refund of a part of the annual premium for the year of death is an additional benefit—equivalent to increasing the amount of insurance. This cannot be granted without additional cost. It is possible, as already mentioned, to calculate net premiums with allowance for such refunds. Although this introduces some practical complications in regard to both premiums and reserves, it seems not unlikely that it may become the general practice. A number of companies have already adopted this basis.

**A Common Fallacy with Regard to Premium Rates.** As stated in the previous chapter, it is very commonly supposed that, in calculating premium rates, life-insurance companies make use of the “expectation of life,” or “average future lifetime,” assuming that, on the average, policies become payable at the end of the period of the expectation and that therefore the net premium will be the amount which, at the rate of interest assumed, will ac-

cumulate the sum insured by the end of that period. Net premiums so calculated would be less than the correct premiums. For example, on the basis of the C.S.O. Table and  $2\frac{1}{2}$  per cent interest, the ordinary-life rate at age twenty calculated by the "expectancy method" would be \$11.32 per \$1,000 instead of \$12.49, the correct amount; at age forty would be \$23.04 instead of \$24.65; and at age sixty, \$56.73 instead of \$58.18. The reason for this is that the "expectancy method" involves the incorrect assumption that the total present value of all future death claims, assuming that all claims will be paid at the end of the period of the "expectation of life," is the same as the total present value based on the distribution of death claims by duration, according to the mortality table. This is not so. Payment of all death claims on the average date of death—as assumed by the use of the "expectation"—involves more loss of interest on later claims, as compared with payment in the actual years of death, than would be gained on claims where death occurred within the period of the "expectation." The "expectation of life" should *never* be used in connection with calculations involving compound interest. Results so obtained will be incorrect and misleading.

### REVIEW QUESTIONS

1. What three elements are involved in the calculation of premium rates?
2. Define (a) "net premium"; (b) "gross premium"; (c) "loading."
3. Explain why different assumptions are appropriate for the three basic elements used in calculating premiums for participating policies and for nonparticipating policies.
4. What is the general effect on premium rates of (a) using a more modern mortality table? (b) using a lower interest assumption? (c) making both changes?
5. How is provision made in the premium rate for "unexpected contingencies," such as wars and epidemics?
6. The statement has been made that the use of the American Experience Table for calculating premium rates until about 1940 resulted in serious overcharging of policyholders. Comment.

7. In connection with the calculation of premium rates, what is the significance of the expressions (a) "immediate payment of claims"? (b) "deduction of unpaid fractional premiums"?

8. Comment on the statement: "In calculating premiums, the company assumes that the policyholder will live for the period of his 'expectation' according to the mortality table used."

## The Reserve

It has been explained that, on the level-premium plan, a net premium is calculated which will be just sufficient, in the aggregate and under certain assumed conditions as regards rates of mortality and interest, to pay all death claims as they become due. The total net premiums paid each year are, for a time at least, greater than the amount of death claims, and a fund is thus created from the excess payments with interest thereon. The fund so formed from the accumulated excess payments is technically called the *reserve*. Without it, future premiums on the level-premium plan would be insufficient. Maintenance of this fund is a necessary part of the level-premium plan.<sup>1</sup>

It should be particularly noted that the reserve is accumulated on the basis of the *assumed* (or "tabular") rates of mortality, not on the basis of the *actual* mortality experienced. If, as will usually be the case, the actual death claims are lower than those assumed and provided for in the net premium, the difference is a "gain from mortality" which will increase the company's surplus funds until distributed to the policyholders (or stockholders) as dividends.

When a policyholder dies, the reserve in respect of his policy makes up part of the amount payable. Thus, the actual "insurance," or "risk," is constantly being reduced, and the cost of insurance each year on the level-premium plan is determined, not by the full sum insured, but by the *net amount at risk*, i.e., the

<sup>1</sup> The reserve is carried as a liability in the financial statements of life-insurance companies since it represents an obligation to the policyholders. The term "fund" does not refer to any specific allocation of assets to offset this particular liability.

difference between the full sum insured and the reserve. This principle of a reducing amount at risk, with correspondingly decreasing "insurance," is fundamental to the level-premium system and is the reason why it is practicable to furnish insurance for the whole of life without increasing the cost to a prohibitive amount at advanced ages. It should be clearly understood that, on the level-premium plan, a *policy* of \$1,000 does *not* give "insurance" of that amount. Failure to understand that fact has been responsible for criticisms of the level-premium plan involving the assertion that under that system the person insured forfeits the reserve at death. That is not the case.

On the assessment plan of life insurance, death claims are paid by a levy or assessment on all those who have been insured. On that basis no *reserve* funds are necessary if one assumes that the assessments will be paid. The "reserves" sometimes held by assessment associations are therefore really safety or guarantee funds. Life-insurance companies pay death claims under policies on the 1-year-renewable-term plan out of current premiums, and the reserve at any time on such policies is therefore merely the proportionate part of the net premium for the unexpired period of risk. For insurance on the level-premium plan the amount to be held as reserve follows directly from the method by which the premiums were calculated.

The reserve may be explained from another point of view. When a policy is issued, the discounted, or present, value of all the net premiums is, as has been explained in the previous chapter, exactly equal to the discounted value of the benefit promised in the policy, namely, payment of the sum insured at death. At any time after the date of issue, the value of the remaining net premiums will be less than at the date of issue, since fewer of them remain to be paid, while the value of the insurance has increased because the date of its payment has drawn nearer. The difference between the increased value of the insurance and the decreased value of the future net premiums must be represented by funds in hand; otherwise, the company will not be able to meet its liability. The difference, or fund in hand, is the reserve, and it can be demonstrated that the amount of the reserve obtained in this way is,

as it should be, exactly the same as the amount obtained by the accumulative process.

There follows a numerical illustration of the method of calculation of the reserve on an ordinary-life policy by the *accumulative* process.

In this illustration we have, for simplicity, based the calculations on a relatively small number insured (1,000) and have taken the deaths each year to the nearest whole number. The amounts of the reserves thus arrived at are therefore not quite the same as would be obtained by a more exact calculation in which the numbers of assumed deaths each year would correspond *exactly* with the rates of mortality according to the table, i.e., would be (for 1,000 or fewer lives) a whole number and a fraction—representing an *average* experience. The important thing for our present purpose is not the exact amounts of the reserves each year but the method of arriving at them.

On the basis of the C.S.O. Table with interest at  $2\frac{1}{2}$  per cent, the net annual premium at age thirty-five for an ordinary-life policy of \$1,000 is \$20.50. If 1,000 such policies are issued, the accumulation of the reserve fund (on the simplified basis as to death claims stated above) for the first 3 years will be as follows:

First-year premiums, $(1,000 \times \$20.50)$ . . . . .	\$20,500
Interest thereon at $2\frac{1}{2}$ per cent . . . . .	513
Total before paying death claims . . . . .	\$21,013
Death claims $(1,000 \times 4.59)$ taken as . . . . .	5,000
First-year reserve . . . . .	\$16,013
Second-year premiums, $(995 \times \$20.50)$ . . . . .	20,398
Total fund beginning of second year . . . . .	\$36,411
Interest thereon at $2\frac{1}{2}$ per cent. . . . .	910
Total before paying death claims . . . . .	\$37,321
Death claims $(995 \times 4.86)$ taken as. . . . .	5,000
Second-year reserve. . . . .	\$32,321
Third-year premiums $(990 \times \$20.50)$ . . . . .	20,295
Total fund beginning of third year . . . . .	\$52,616
Interest thereon at $2\frac{1}{2}$ per cent. . . . .	1,315
Total before paying death claims. . . . .	\$53,931
Death claims $(990 \times 5.15)$ taken as. . . . .	5,000
Third-year reserve. . . . .	\$48,931

In an exact calculation the *number* of deaths in the first year would be assumed to be 4.59 (not 5) since that is the rate of mortality per 1,000 at age thirty-five, and the assumed *amount* of death claims would therefore be \$4,590 instead of \$5,000; the calculation would be similar for the second and third years. Also the number of survivors at the end of the first year paying a second premium would be 995.41 instead of 995, etc.

The above illustration shows that the total reserve is simply the accumulation, at the *assumed* rate of interest, of the net premiums received less the death claims provided for by the mortality table.

At the end of the first year, for example, the total reserve is \$16,013. At that time there are 995 survivors, so the reserve on *each policy*, i.e., the first-year reserve per \$1,000 of insurance, is  $\$16,013 \div 995$ , or \$16.09. Since the premium paid on each policy was \$20.50, upon which interest of about \$0.51 was earned, the actual cost of insurance per \$1,000 in the first year was only \$4.92 ( $\$20.50$  plus \$0.51 less \$16.09). It should be remembered, however, that this figure results from assuming death claims of \$5,000 instead of the theoretically correct amount, \$4,590, and is therefore slightly higher than the true cost of insurance on the bases of mortality and interest assumed.

In the same way, the reserve per \$1,000 of insurance at the end of the *second* year is  $\$32,321 \div 990$ , or \$32.65, and at the end of the *third* year,  $\$48,391 \div 985$ , or \$49.68. If the calculation were to be continued in a similar manner, until the last survivor dies at age ninety-nine (and, of course, using exact, rather than approximate figures), it would be found that the reserve per \$1,000, i.e., per policy, would reach exactly \$1,000 at the end of the final year.

While the reserve *per policy* can be arrived at in the manner just described, it is important to realize that such a figure has no real significance as applied to an individual policyholder but is merely an *average* or a *factor* applicable to a large number of policies or to a large amount of insurance. If a large group of policyholders were to be divided into two groups, one of which contained all the healthy lives and the other all the unhealthy lives, the *total* reserve could not simply be prorated between them since the death

rates in the two groups would be quite different. The prorated reserves would be more than sufficient for the healthy lives and less than sufficient for the unhealthy lives. It is necessary for some purposes (such as the calculation of cash-surrender values) to consider the reserve for an individual policy as being the pro rata part of the total reserve for all similar policies, thus ignoring possible differences in health and probable longevity. Further reference will be made to this question in later chapters.

This method of calculating reserves is sometimes called the *retrospective* method since the amount of the reserve is obtained by an *accumulative* process. The reserve per \$1,000 can also be arrived at by a *prospective* method. Thus the reserve at any date must be equal to (1) the then present value of the insurance benefit, less (2) the then present value of the net premiums remaining to be paid.

As an example of this prospective method we shall calculate the third-year reserve on an ordinary-life policy for \$1,000 issued at age thirty-five which we have already found by the *retrospective* method to be (approximately) \$49.68.

At the end of the third year each policyholder will be thirty-eight years old. The "present value of the insurance benefit" at that time is simply the *net single premium* for whole life insurance of \$1,000 at age thirty-eight, which, on the basis of the C.S.O. Table and  $2\frac{1}{2}$  per cent interest, is \$483.87. The "present value" of the net premiums remaining to be paid will be obtained by multiplying the net premium of \$20.50 by the present value, on the same basis, of a *life annuity* of \$1 per annum at age thirty-eight, which is \$21.16. The third-year reserve will therefore be:

Present value of insurance.....	\$483.87
Less present value of net premiums ( $\$20.50 \times 21.16$ )...	433.80
Difference = reserve.....	\$ 50.07

This figure (\$50.07) is greater than the amount already obtained by the retrospective method (\$49.68), the difference being the amount of error resulting from the simplified method followed in making the latter calculation. Where both calculations are made accurately the resulting reserve will be exactly the same.



**Terminal, Initial, and Mean Reserves.** The reserves, the calculation of which has been illustrated so far, are those which are on hand at the *end* of policy years, or *terminal* reserves. The amount on hand immediately after the net premiums for the next policy year have been paid is the *initial* reserve of that year. Thus the initial reserve of, say, the fifth year is equal to the terminal reserve of the fourth year increased by the net premiums payable at the beginning of the fifth year. Initial reserves in the illustration on page 116 are shown in the lines "total fund beginning of \_\_\_\_ year."

When a life-insurance company makes up a statement of its financial condition on a stated date, the most important item among its liabilities is the aggregate amount of the reserves which it ought to have in hand at that date in respect of the policies in force. Policies are issued on all dates throughout the year so that at any given date there will be some policies which are just commencing a policy year, some which have just completed a policy year, and a great many more which will be somewhere between one policy anniversary and the next. For example, if a financial statement is made as of Dec. 31, a relatively small number of policies will, at that date, be exactly at the end of a policy year. It may be assumed, without any material error, that, on the average, all policies are at that date exactly halfway between two policy anniversaries. The amount of the reserve at Dec. 31 will then be in each case the mean or average of the reserve at the beginning of the policy year current at Dec. 31 and the reserve at the end of that policy year, i.e., the average of the initial reserve and the terminal reserve of the current policy year. The amount so ascertained is the *mean* reserve, which is used by life-insurance companies in calculating the aggregate liability on all policies in force at the end of the financial year.

The terminal reserve is of use in determining the amount of the cash or other surrender value to be paid to a discontinuing policyholder where, as has usually been the case, the surrender value is based on the policy reserve.

In a later chapter it will be shown that the initial reserve is of importance in the calculation of dividends. It is sufficient for the

present to say that usually an important element in the dividend paid on a participating policy is interest earned in excess of the rate assumed in calculating the premium. The amount upon which the excess interest is earned must therefore be ascertained for each policy; and since dividends are paid in respect of policy years, not calendar years, the amount upon which the excess interest is assumed to be earned in each case is usually the initial reserve.

**The Net-level-premium Reserve as a Test of Solvency.** The reserves calculated in the manner described above are the *net-level-premium reserves*. The calculations assume that the net premium, neither more nor less, is available each year, including the first year, for the purpose of paying current or future death claims and that the rates of mortality experienced and the rate of interest earned have been and will be in accordance with the assumptions made in calculating the net premiums. The loading, whether on past or future premiums, is not taken into account. A distinction must be observed between the net-level-premium reserve and the reserve which would actually be needed for solvency, taking into account *actual* conditions with regard to future mortality interest and expense.

Normally, the assumptions as to the rates of interest, mortality and expense used in calculating the net-level-premium reserve are substantially less favorable than those actually expected. It is essential in such calculations that there be some margin of safety in the basic assumptions. Thus the reserves are normally greater than would actually be required to meet all future obligations on the basis of *realistic* assumptions.

In 1858 a law was passed in Massachusetts which empowered the commissioner of insurance to establish a minimum reserve standard. It was provided that no company which had not sufficient assets to meet remaining liabilities after setting aside the total reserve on the basis stipulated by the commissioner could continue in operation. The basis stipulated by the commissioner was the net-level-premium reserve by the "Combined" or "Actuaries" Table of Mortality<sup>2</sup> with 4 per cent interest, and the effect was

<sup>2</sup> This table, sometimes also called the "Seventeen Offices Table," was based on the experience of 17 British companies and was published in 1843.

to establish that basis as a standard of solvency in Massachusetts. The law did not require net-level-premium reserves.<sup>3</sup>

The fact is that, while the net-level-premium plan provides a complete, scientific, and practical system for life-insurance reserves, a company which does not possess the full amount of the reserve on that basis is not necessarily insolvent. In any inquiry into solvency, the *gross* premiums receivable must be taken into account; and if future expenses may be expected to be less than future loadings, as will usually be the case—in a mutual company at least—the company may well be solvent although it has not the full net-level-premium reserves. An important element, however, in determining solvency is the amount and extent of guaranteed cash-surrender values. Some companies provide for a cash value equal to the full reserve after only a very few years. In such a case the full net-level-premium reserve would be necessary for solvency in respect of a considerable portion of the company's business.

In other words, a test of solvency must take into account the actual assets, present and prospective, as well as the liabilities, and both should be valued on a "true" basis rather than an artificially conservative one such as is involved in the use of a low rate of interest and a high rate of mortality. Thus, if two companies have the same amount of business in force, distributed by amount, age, plan, and duration in the same way, the amount of the total reserve on a specified net-premium basis would be the same for each company. If the companies have equal assets while one company charges larger gross-premium rates than the other, the one receiving larger premiums is in a stronger financial position if its expenses and all other conditions are the same. Both companies might be insolvent according to the legal standard; but the former, on account of the additional loadings payable to it, might be solvent if it were allowed to take these extra loadings into

The rates of mortality are not widely different from those of the American Experience Table.

<sup>3</sup> As will be explained later, it is practically impossible for a new company to set up reserves on the net-level-premium basis. This is because of the unequal incidence of expense between the first and subsequent policy years.

account, and there is no good reason why, *in such a test*, it should not.

At the time when the Massachusetts law just mentioned was put into operation, conditions were very different from those now obtaining. Expenses, although necessarily greater in the first than in subsequent years, were more equally distributed over the whole duration of the policy, and there was more justification for the theory (involved in the system of net-level-premium reserves) that the loading would be sufficient to pay the expenses in all policy years, including the first. In fact, one of the evils corrected by the law was the practice of ignoring future expenses altogether in policy-reserve calculations and of assuming that the whole of the *gross* premiums of the future would be available for paying claims. This practice represented the opposite extreme to the rigid net-level-premium system, the assumption being that there would be no expenses at all in the future, whereas, by the net-level-premium system, the implicit assumption is that the *whole* of the loadings will always be required for expenses. The truth lies between these two assumptions. An accurate estimate of the actual liability of a life-insurance company under its outstanding policies, made to determine its solvency, i.e., its ability to meet all its contractual obligations), could be obtained only by the use of a "true" mortality table and a realistic rate of interest, in conjunction with the actual gross premiums payable less probable expenses—keeping in view also the amounts of guaranteed cash or other surrender values. Such a calculation is called a *gross-premium valuation*.

In practice, however, where no question of solvency is involved, such a method of calculating the reserve liability as has just been explained would not be appropriate since it would mean that the company was computing its liabilities on a minimum rather than a safe basis. It is desirable, in ordinary circumstances, to make a more conservative estimate of the future. The net-level-premium plan, using conservative rates of mortality and interest, provides safety margins in respect to all the elements involved and is the basis most generally used. However, it takes no account of the actual incidence of expense and is therefore to some extent artificial. Other reserve systems (to which further reference will be made

later) have been devised with a view to making allowance for the practical fact that expenses are normally *greater* than the loading in the first year and less in later years. Such systems are widely used, chiefly by the younger and smaller companies in which new insurance is relatively larger in relation to total insurance in force.

**“Cost of Insurance.”** The process by which the net-level premium reserve is built up and the function which it performs will be made clearer if we consider the operations of a particular policy year in the following manner: The net annual premium for an ordinary-life policy of \$1,000 at age thirty is \$17.22 (C.S.O. Table, 2½ per cent). The reserve at the end of the tenth year (i.e., at attained age forty) is \$151.55; at the end of the eleventh year, \$167.83.

The reserve held on a policy “becoming a death claim” in the eleventh year, namely, \$167.83, is, of course, insufficient in itself to pay the face amount of the policy. Therefore, a contribution must be made each year by *all* those insured (including those who die during the year) to make up the difference between the total amount payable under death claims and the reserves held on the policies becoming death claims. These reserves will no longer be required. They will pay part of the death claims payable in that year and are described as “reserves released by death.”

The contribution which must be made by each of those insured in order to make up the full amount of the death claims payable in any year is called the *cost of insurance* for that year. In this particular case, the eleventh-year cost of insurance for each policy, if paid at the beginning of the year, would be the net premium at age forty (beginning of the eleventh year) for 1-year term insurance of \$832.17, which is the difference between the “face amount” of \$1,000 and the eleventh year terminal reserve of \$167.83, i.e., the *net amount of risk*. The 1-year-term net premium at age forty for insurance of \$832.17, calculated as described in the previous chapter, will be found to be \$5.03. This amount, however, is calculated on the assumption that it is paid at the *beginning* of the eleventh year policy whereas the death claims are assumed to be paid at the *end* of the year. The cost of insurance, to be paid by

each person insured as of the *end* of the year, will therefore be \$5.03 plus 1 year's interest at  $2\frac{1}{2}$  per cent, or \$5.16.

The process of accumulation during the eleventh year will be as follows:

Reserve, end of tenth year	.....	\$151 55
Add net premium		17. 22
Initial reserve, eleventh year		<u>\$168 77</u>
Interest at $2\frac{1}{2}$ per cent		4 22
Total fund, end of eleventh year		<u>\$172 99</u>
Deduct cost of insurance		5 16
Terminal reserve, eleventh year		<u>\$167 83</u>

If the policy is one of those which become death claims during the year, its terminal reserve (\$167.83) would then form part of the reserve released for payment of death claims, so that in its final year the policy itself would have contributed a total of \$172.99 toward payment of its own claim, that being its actual individual accumulation to the end of the year before death claims are paid. If the policy is still in force at the end of the year, \$5.16 is paid toward death claims in that year and only the balance of the actual accumulation of \$172.99, namely, \$167.83, remains as reserve.

The foregoing paragraphs may be summarized by saying that the reserve at the end of any year, increased by the net premium due immediately thereafter and by interest on the total, and decreased by the cost of insurance, equals the reserve at the end of the next year. This is a fundamental relation and one which should be carefully noted and remembered. In the case of paid-up, or fully paid, policies, where no further premiums are payable, the same relation holds good, except that the item "net premium" is omitted. In the case of such policies, the cost of insurance is met from the interest earned on the reserve. The amount of the reserve at age forty on each policy is \$502.64, and the reserve 1 year later is \$512.19. (These amounts are the *net single premiums* at ages forty and forty-one.) The cost of insurance is thus the 1-year-term rate at age forty for insurance of \$487.81 (\$1,000 less \$512.19) plus 1 year's interest at  $2\frac{1}{2}$  per cent, which is \$3.02, and the accumulation of the reserve from the tenth to the eleventh year would be as follows:

Reserve, beginning of year . . . . .	\$502 64
Interest at $2\frac{1}{2}$ per cent . . . . .	12 57
Total . . . . .	<u>\$515.21</u>
Less cost of insurance . . . . .	3 02
Reserve, end of year . . . . .	<u>\$512 19</u>

**Effect of Changes in the Assumed Rate of Interest.** The effect of using a lower assumed rate of interest in calculating the net premium and reserve is to increase both; the effect of using a higher rate of interest is to decrease them.

If it is assumed that a lower rate of interest will be realized in the future, larger net premiums will be required in order to provide the sums payable in death claims as they fall due, while, if a higher rate of interest is assumed, a smaller net premium will be sufficient. It might be thought from a consideration of the retrospective or accumulative method of calculating reserves that an increase in the rate of interest would result in increasing the reserve; but an increase in the rate of interest implies a lower net premium. The result of accumulating the lower net premium at the higher rate of interest is to produce lower reserves. The difference between reserves on two different interest bases must ultimately decrease as the number of years in force increases since, whatever the rates of interest may be, the reserve must finally equal the amount of insurance when the limiting age of the mortality table, or the earlier maturity date of the policy, is reached.

The extent of the difference in reserves arising from a change in the rate of interest is illustrated in Table 6-1, which shows the amount of the terminal reserve at  $2\frac{1}{2}$  and at 3 per cent for various numbers of years in force in the case of an ordinary-life policy of \$1,000 issued at age twenty-five.

After 5 years the excess of the  $2\frac{1}{2}$  per cent reserve over the 3 per cent reserve is 10 per cent of the latter; the excess has fallen to 7 per cent by the twentieth year and to 4 per cent at the end of the fortieth year. Since both calculations are based on the same mortality table, the reserve on each basis will ultimately become the same at the limiting age of the table.

It is sufficient to remember the general effect of changing the interest rate and to realize that where the contract has many

TABLE 6-1. ORDINARY-LIFE POLICY FOR \$1,000. AGE TWENTY-FIVE  
C.S.O. TABLE

Number of years in force (1)	2½ per cent reserve (2)	3 per cent reserve (3)	Difference as percentage of 3 per cent reserve (4)
5	\$ 62.89	\$ 56.95	10
10	131.33	120.10	9
15	204.90	189.22	8
20	282.81	263.69	7
30	446.17	423.62	5
40	606.31	584.94	4
50	744.75	727.79	2
60	847.58	835.95	1
70	918.73	911.85	1

years to run, as in the case of an ordinary-life policy taken at an early age, the effect of interest is more considerable, so that the difference will be greater in such circumstances. In policies which run for short periods, such as a 10-year-term policy, the difference in reserve arising from a difference in the assumed interest rate would be small.

The foregoing paragraphs refer to individual policies. The effect of a change in the reserve rate of interest on the total reserves for a company's whole business will depend on the distribution of the existing policies by plan, age, and duration. For an average company with a normal distribution of business a reduction of ½ per cent in the reserve rate of interest would mean an increase in the total reserve of about 5 per cent. In the United States it was not formerly customary to change the basis of reserves under existing contracts when a lower interest basis was adopted for new policies. However, when, as in the early 1940's, interest rates have fallen to nearly (or, in some cases, below) the rates which had been assumed, it has been necessary to change the reserve basis for policies issued in prior years by adopting a lower interest basis for computing reserves on such policies.



**Effect of Changes in the Assumed Rate of Mortality.** The effect on reserves of changing the mortality table while keeping the rate of interest the same cannot be explained so simply. It is not necessarily true that a table which shows high rates of mortality will give higher reserves than a table which shows lower rates of mortality. The criterion for determining whether any particular mortality table will give reserves that are relatively high or low compared with those given by some other table is the relative *rapidity of increase in the rate of mortality as age increases*. As one table may show higher rates of mortality, as compared with another table, at certain ages and lower rates at other ages, it follows that reserves may be higher on a specified table for certain ages and durations but lower for other ages and durations. This is often the case. For example, a select mortality table shows rapidly increasing rates of mortality in the early years following entrance. Such a table, accordingly, shows higher reserves for short durations than a table where there is no such rapid change in the mortality rate. In general, where the curve formed by charting the rate of mortality is *steeper* by one table than by another (even where the rate of mortality by the former table falls below that by the latter), reserves by the former table will be higher.

TABLE 6-2. ORDINARY-LIFE POLICY FOR \$1,000. AGE TWENTY-FIVE

Years in force	Rate of mortality per 1,000		Reserve	
	American Experience Table	Select table	American Experience Table	Select table
1	8.07	2 81	\$ 8 60	\$ 13 20
5	8 35	6 14	45.76	60 00
10	8.83	8 14	98 94	119.40

These principles are illustrated by the figures in Table 6-2, which show the reserve required in the early years for an ordinary-life policy of \$1,000 taken at age twenty-five, according to the

American Experience Table<sup>4</sup> and according to a certain select mortality table, each at 3 per cent. The rate of mortality in the American Experience Table is higher throughout than in the select table; in fact, almost three times as great in the first year.

The reserve at the end of the fifth year calculated on the basis of the American Experience Table is only about three-quarters of that produced by the use of the select table. This difference gradually diminishes with increasing duration and age in the same way as the difference in reserves arising from the use of different rates of interest. In the case of the select table, fewer deaths occur in the early years, and while it is true that the premium required by the select table is smaller than by the American Experience Table, this difference is spread over the whole of life (or the whole duration of the policy), whereas the saving in claim payments is largely concentrated in the few years following issue.

A change in the rate of mortality may affect only certain ages or durations in the same direction, whereas a change in the interest rate operates in the same direction at all ages and durations. A consideration of these principles will make it clear that reserves by the C.S.O. Table will, in general, be greater than by the American Experience Table, since the modern tables show much lower rates of mortality at the lower ages and only slightly lower rates later, i.e., *a more rapid increase* from the lower to the higher ages.

The effect on the *total reserves* of an average life insurance company of changing from the American Experience Table to the C.S.O. Table would be, generally speaking, much less than the effect of changing the interest rate by as little as  $\frac{1}{2}$  per cent. As has been explained, a reduction in the interest rate of  $\frac{1}{2}$  per cent would increase the aggregate reserves of an average company by something like 5 per cent. The difference in total reserves between any of the mortality tables which might be adopted (assuming no change in interest rate) would in most cases not be more than half of that. It is a common idea that the use of an old mortality table like the American Experience Table implies much larger reserves than are necessary. A more modern table will, in most cases, require

<sup>4</sup>The American Experience Table is used in this illustration to emphasize the point that high rates of mortality do not necessarily mean high reserves.

a higher rather than a lower total reserve, although the actual difference will not be likely to be, in the aggregate, more than 1 or 2 per cent.

**Modern Mortality Tables.** The American Experience Table, although no longer representative of insurance experience (particularly at the lower ages), was continued in use by most companies over a very long period until 1948, when the C.S.O. Table came into general use. Since mortality rates generally were known to be decreasing, the question of the desirability of a general change to a more modern table for premium and reserve calculations was brought up on two occasions by the National Association of Insurance Commissioners (N.A.I.C.).

In 1911 the association (then known as the National Convention of Insurance Commissioners) suggested that life-insurance companies make a joint investigation in order to obtain a mortality table which would reflect current experience more accurately than did the American Experience Table. It was presumed, correctly, that a new table would show lower net premiums, and many, no doubt, supposed that this implied also lower reserves. In response to that suggestion two new tables, the American Men Table and the Canadian Men Table, were prepared and published in 1918. These tables, as was anticipated, showed lower net premiums than those based on the American Experience Table. However, because the decrease in mortality rates was relatively greater at the lower than at the higher ages, reserves by the new tables (for the reasons explained above) were generally increased instead of diminished. The fact that these tables did not come into general use at the time of their publication was due principally to the following reasons: (1) the new tables were not, for some time, a permissible legal reserve standard in all states; (2) there was no inducement, so far as the companies were concerned, to make a change which meant lower net premiums and higher reserves; and (3) the adoption of the new tables would (under the then existing statutes) have involved higher nonforfeiture values; in particular, a very radical increase in the periods of extended term insurance at the lower ages and shorter durations.

It is not important in the case of a mutual company whether the net premiums are low or high, since the gross premiums are in any

case always intended to be somewhat larger than is actually necessary. The actual cost to the insured in such a company is determined by the dividend scale and not by the gross premium. So far as mutual companies (issuing participating policies) were concerned, a change to the new table would not necessarily have resulted in lower premiums (although it would probably have done so since, at that time, there was no need—as there was later—to reduce the *interest assumption*) and would not have meant a lower actual *cost*. On the other hand, a reduction in gross premiums would have meant a lower margin of safety.

For nonparticipating policies it is necessary to use a reasonably “true” mortality table. Gross premiums charged for nonparticipating policies are always based upon a modern or realistic table.

These considerations, which are all of a practical character, were sufficient to prevent the general adoption of the American Men and Canadian Men Tables as a basis for premiums and reserves.

In 1938 the Commissioners Association again took up the question by appointing the Committee to Study the Need for a New Mortality Table and Related Topics. This committee was under the chairmanship of Alfred Guertin, then actuary of the New Jersey State Insurance Department, and is usually called the Guertin committee. The report of the committee, which was adopted by the association in December, 1939, recommended the preparation and use for life-insurance purposes of a table based on more modern experience.<sup>5</sup>

The committee pointed out, however, that, because of the existing statutory requirements in regard to nonforfeiture values and the relationship of such values to reserves, and because of the consequences of enacting new reserve laws including provision for the use of a modern table without any modification of the nonforfeiture statutes, it was desirable, in fact essential, that the two subjects should be dealt with together. They recommended that a committee be appointed to consider the coordination of minimum

<sup>5</sup> It is strongly recommended that the reader study this report as well as the subsequent *Report on Nonforfeiture Values*. They are the best and most complete discussions of these subjects ever written and contain much information of value to the student of life insurance.

reserve standards and minimum nonforfeiture requirements, and in accordance with this recommendation the Guertin committee was reconstituted as the Committee to Study Nonforfeiture Benefits and Related Matters.

The report which this latter committee submitted proposed uniform legislation in all states through the enactment of a standard valuation law and a standard nonforfeiture law; supplied new modern mortality tables, namely, the Commissioners' 1941 Standard Ordinary Table and the 1941 Standard Industrial Mortality Table (described in Chapter 4); and furnished (as part of the standard laws) a new minimum reserve system (the "Commissioners' Reserve Valuation Method") and a new basis for minimum nonforfeiture values (the adjusted-premium method), both of which will be described later.

This report (after some changes had been made in the proposed standard laws, which were concurred in by the Guertin committee) was adopted by the association in June, 1942.

The Standard Valuation Law and the Standard Nonforfeiture Law have been enacted or otherwise made effective in all states. Their provisions are applicable, in general, to all policies issued since Dec. 31, 1947. Under the Standard Valuation Law, the *minimum* reserve basis for ordinary (as distinguished from industrial) policies is the C.S.O. Table with interest at  $3\frac{1}{2}$  per cent (using the Commissioners' Reserve Valuation Method). In New York the Standard Valuation Law was modified to require an interest assumption not higher than 3 per cent.

The specification in the law of the minimum reserve standard on the basis stated above does not mean, in itself, that a company *must* use the C.S.O. Table for calculating reserves. It means that, whatever table is used, the reserves must be at least as great as if calculated on the minimum-standard basis. However, the requirements of the Standard Nonforfeiture Law are such that it would be impracticable for a company to use any other table for reserves than the C.S.O. Table.

Thus the effect of the enactment of the standard laws has been to make the C.S.O. Table, instead of the American Experience Table, the universal reserve basis for all policies issued since about

Jan. 1, 1948. For industrial insurance, similarly, the mortality basis is now the 1941 Standard Industrial Mortality Table.

**Reserves on Individual Policies.** It has been pointed out that it is not correct to consider the total reserve of a life-insurance company as capable of being divided, or "prorated," among the individual policyholders. It is only through the cooperation of large numbers of persons that life insurance is possible, since no one knows which of those who are insured will be the first to die. If an equitable apportionment of the total reserve fund were required to be made, as, for example, in event of the company's being liquidated, such an apportionment should, strictly speaking, take into account the relative state of health of the various policyholders and their consequent respective chances of survival. A policyholder in poor health should be equitably entitled to a relatively larger share of the aggregate reserve than one who is in good health, since the true value of his contract, as measured by the relative chances of death, would be greater. Nevertheless, it is necessary, for certain practical purposes, to consider that the reserves of individual policies are the pro rata shares of the total reserve. For example, in determining dividends, the reserve for an individual policy (upon which the "excess-interest" portion of the dividend is based) is considered to be the pro rata share of the total reserve on all precisely similar policies which have been in force for the same length of time.

Also, cash and other surrender values have been in the past, and to a considerable extent still are, based directly on the "individual" or "prorated" policy reserves and thus take no account of possible differences in health or probable longevity among persons of the same age with identical policies. This can be justified by the fact that when the policies were issued all qualified on the same basis and had the same presumptive prospects of longevity.

**General Considerations.** The necessity for the possession by a life-insurance company of large "policy reserves" will now be clear to the reader. The finances of each group of policyholders are worked out in the manner which has been illustrated. The net premiums accumulated in the manner shown are assumed to be exactly sufficient to pay all claims as they fall due, leaving nothing

over after the last death has occurred. In all companies, therefore, the amount of the policy reserve must be a very large part of the total assets since there are thousands of groups of policyholders at various ages with policies on different plans and in force for varying periods.

The word "reserve" in this connection is rather unfortunate since it does not have the same meaning as is usually applied to it in the case of ordinary commercial undertakings, where "reserve" is often synonymous with "surplus." The policy reserve of a life-insurance company is not surplus. It is a *liability*. If the company does not maintain the proper reserve, it may be insolvent and may eventually be unable to pay claims. The reserve is, in fact, the most important of a life-insurance company's liabilities and may form as much as 80 or 90 per cent of the total liabilities of a long-established company.

**Comparisons Based on the Reserve.** The reserve *basis* (and particularly the interest assumption) is naturally one of the most important elements in determining the strength of a company.

A mere ratio of the *amount* of reserve to the *amount* of insurance in force is, however, almost certain to be misleading. In a young company the percentage of the reserve to the insurance in force must be much lower than in an old company, even if the *basis* is the same, since the majority of the policies in the former company are of short duration. The same situation exists between two companies one of which is doing a relatively large new business and which will therefore have a lower average age and duration of its policies than the other company. A comparison, therefore, of the ratio of reserve to total insurance in force in two companies is no indication of their relative strengths or degrees of solvency. An old company with a comparatively high proportion of reserve to insurance in force might be in weaker financial condition than a young company with a low ratio of reserve to insurance in force, even where the reserve basis was the same. For example, its investments might be of poorer quality. A better measure of relative strength is the ratio of surplus funds to reserves; but the basis upon which the reserves are calculated, the character of the investments forming the reserve and surplus funds, and also the character of

the management are the primary considerations. Nothing conclusive about relative financial strength can be learned from a mere comparison of figures.

### MODIFIED RESERVE SYSTEMS

We have seen that, under the net-level-premium system, the *net premium* provides for the contractual policy benefits, i.e., death claims, amounts payable at the maturity of endowment policies, and nonforfeiture benefits, such as cash values. We have also seen that the *loading* provides for expenses and contingencies. From the illustrations of the calculation of the net-level-premium reserve it was seen that, in order to provide the necessary reserve, each year the net premium, after only the "cost of insurance" is deducted, (which makes up the amount required for the current year's death claims), must be retained and accumulated at the assumed rate of interest. In other words, no part of the net premium is available for any expenses in excess of the loading.

However, in the first year, or possibly in the first two or three years, expenses are, normally, substantially in excess of the loading. Expenses are not uniform from year to year. Certain expenses, such as the cost of medical examination and inspection and the cost of preparing and issuing the policy are incurred only once—at the time of issue. More important is the fact that under the usual system of agents' compensation, a higher rate of commission is paid to the agent in the first year, or in the first few years, than in subsequent years. Since the amount of the loading is uniform (the same gross premium being payable every year) the practical situation is that in the first year, or first few years, the loading is insufficient to pay expenses, whereas thereafter it is more than sufficient.

The result of this situation is that, in order to set up net-level-premium reserves for new policies, the company must draw on its surplus funds to provide for the excess expenses (over loadings) in the early years. The amounts so drawn, or "borrowed," from surplus are returned to surplus later when the loadings are greater than the expenses.

In the case of a well-established company with ample surplus



funds, no difficulty arises because of this situation. The amounts drawn from surplus in any year to make up the reserves on new policies will be offset by the excess of loadings over expenses on older policies. Unless, therefore, such a company were to greatly increase the amount of new insurance issued, the *net* effect on the amount of surplus funds in any year, even where large amounts of new business are being issued, is not important.

The situation is quite different in the case of a recently organized company, a company which is rapidly expanding the volume of its insurance in force, or in a company which does not have ample surplus funds. For example, in the early years of a new company all of whose policies have been recently issued and which has not had time to accumulate much surplus, it would usually be impossible to establish net-level-premium reserves. Some *modification* of the reserve system is necessary in these circumstances.

Several *modified reserve systems* have been devised to meet these conditions. They are all based on the fact that loadings are insufficient to pay expenses in the early policy years and more than sufficient in the later years. They all permit the use of some part of the *net premiums* to pay excess expenses of the early years and provide for making good the amounts so used out of the *loadings* of later years. It will be understood that, since the net premiums are, in the aggregate, assumed to be exactly sufficient to pay all claims, any part of the net premium which is used to pay expenses must be recovered in one way or another, either from surplus or from the loadings on renewal premiums.

There are many modified reserve systems, but it will be sufficient to explain here only three: (1) the full-preliminary-term system; (2) the modified-preliminary-term system; and (3) the Commissioners' Reserve Valuation Method.

**The Full-preliminary-term System.** The full-preliminary-term system, which is rarely used, is not now of any practical importance. However, an explanation of it is necessary for an understanding of the much more important modified-preliminary-term system and the Commissioners' Method.

In view of the fact that death claims will occur even in the first policy year, the part of the first-year net premium which can be

used for expenses is necessarily limited to such an amount as will leave sufficient of the net premium to pay death claims occurring in that year. That is the *maximum* which could be used, although such a maximum may not be necessary. If the maximum is taken, the first-year terminal reserve will be entirely extinguished, since *none* of the net premium will remain at the end of the policy year. Also, the amount which will have to be added to the reserve annually out of the renewal loadings will be correspondingly high. In fact, the situation in that case is that for the future the company will require a net premium of the same amount as if the policy had been issued at the *end* of the first year at an age 1 year higher—since the entire first-year gross premium will have been spent on expenses and death claims. In that case, the company must in effect treat the policy, *as far as reserves are concerned*, as if it were *term* insurance for 1 year, followed by *life* insurance beginning at the end of the first year—hence the expression “preliminary term.”

The expression is an unfortunate one and is responsible for the idea that, where reserves are established on this basis (or on the modified-preliminary-term system described later), the first year's insurance is term insurance for which the company charges a premium higher than the usual 1-year-term rate. In fact, however, it is only the amount of the *reserve* which is affected. The policyholder has an ordinary-life (or other) policy for which he pays the ordinary-life premium, and there is no good reason why cash values should not be just as high as where reserves are set up on the full net-level-premium basis, since *if the actual expenses are the same* the amount actually *available* for cash values will be the same irrespective of the reserve system employed.

While some part of the first-year net premium may be required temporarily for excess initial expense, it does not follow that it is either necessary or desirable to spend the limit, i.e., all but enough of the first net premium to take care of first-year death claims. The amount of the first-year net premium used for expenses ought to be limited by two considerations: (1) the amount which the company really needs, under existing conditions, to pay for new business without extravagance and (2) the margin of renewal loading remaining (after deducting from the gross premiums the higher re-

newal net premium required) and which will be available for renewal expenses.

This will be made clear by a numerical illustration of the application of the full-preliminary-term system to two different kinds of insurance, ordinary life and 20-year endowment. Nonparticipating policies would be best for illustration, but since the majority of life-insurance policies are participating, it is desirable to consider the situation on that basis. The figures will first be set out in tabular form, using normal gross-premium rates and adopting as a reserve basis the American Experience Table with interest at 3 per cent.

The American Experience Table is used for this illustration because, since the enactment of the Standard Valuation Law (and the general adoption of the C.S.O. Table), the full-preliminary-term-reserve system is not a permissible reserve basis for policies currently being issued. Where the system was used the mortality basis was practically always the American Experience Table.

In Table 6-3 it will be seen that in the first year, after \$8.68 is set aside to pay for death claims, there remain \$17.67 of the ordinary-life premium and \$41.07 of the 20-year-endowment premium, all of which, under the full-preliminary-term system, is assumed to be used in paying excess first-year expenses. If these amounts are actually spent, nothing whatever will remain at the end of the first policy year. On this basis, therefore, the terminal reserve at the end of the first year (all plans of insurance) is *zero*.

At the end of the calendar year of issue there will remain, on the average, one-half of the amount set aside for paying claims in the first policy year, i.e., \$4.34, which is the first-year mean reserve on a 1-year-term policy, and the reserve which the company will hold at Dec. 31 for each \$1,000 of insurance irrespective of plan or the amount of the gross premium received. By the end of the *policy* year this amount will have been exhausted and the reserve reduced to nil.<sup>6</sup>

<sup>6</sup> The *actual* mortality experience in the first year will undoubtedly be less than the *expected*, or *tabular*, mortality. The amount of the difference will be surplus. The basis upon which the reserve is calculated assumes that the company will experience the full tabular rate of mortality by the table used.

TABLE 6-3. ILLUSTRATION OF THE OPERATION OF THE FULL-PRELIMINARY-TERM SYSTEM. AMERICAN EXPERIENCE TABLE—3 PER CENT.  
AGE THIRTY-FIVE

	Ordinary life	20-year endowment
First year:		
(1) Gross premium per \$1,000.....	\$26.35	\$49.75
(2) Net premium (regular level-premium basis)	21.08	41.97
(3) Loading (regular level-premium basis) . .	\$ 5.27	\$ 7.78
(4) Net premium for 1-year term insurance . .	8.68	8.68
(5) (2) less (4) = "Loan" or "extra loading" in first year.....	12.40	33.29
(6) (3) plus (5) = Total available for first-year expenses	17.67	41.07
(7) (6) as per cent of (1).....	67%	83%
After first year:		
(8) Net premium required.....	21.74	44.51
(9) (1) less (8) = Effective renewal loading.....	4.61	5.24
(10) (8) less (2) = Additional net premium. ....	0.66	2.54

The figures given above show that for the ordinary-life policy illustrated the total amount available for first-year expenses is 67 per cent of the gross premium, which, under practical conditions, is not excessive. In the case of the endowment policy, however, the amount available is 83 per cent of the premium, which is much too high. The first requirement—that the amount borrowed from the first year net premium to pay excess expense shall be reasonable—is satisfied in the case of the ordinary-life policy but not in the case of the endowment policy.

The second criterion of the propriety of the full-preliminary-term system is the *sufficiency of the renewal loading*. The illustrative figures show that the ordinary-life policy will require on the preliminary-term basis a renewal net premium of \$21.74, which is simply the regular net premium for an ordinary-life policy issued at age thirty-six, and, for the endowment, a renewal

net premium of \$44.51, which is the regular net premium for a 19-year-endowment policy issued at age thirty-six. These net premiums are necessary because, in each case, the entire amount of the first gross premium is presumed to have been spent. While in the case of the ordinary-life-policy the reduction in renewal loading is only about 12 per cent, on the endowment policy it is 33 per cent.

The conclusion, after consideration of both tests, is that in the case of the ordinary-life policy the full-preliminary-term system is both justifiable and practical, while in the case of the endowment policy it is neither. A similar analysis could be applied to other forms of policies. In general, for low-premium policies, such as limited-payment-life policies with long periods of premium payment and long-term endowments, both the criteria may be satisfied; while in the case of higher-priced policies, such as short-term limited-payment-life policies and endowments of the shorter durations, they will not be satisfied. There will, of course, be a borderline group of plans where the question of extravagance in initial expense or insufficiency of renewal loading under the full-preliminary-term system will be doubtful.

Very few states permitted the unrestricted application of the full-preliminary-term system to all kinds of policies issued prior to the enactment of the Standard Valuation Law. Clearly, the unrestricted use of the system is not to the interest of policyholders since it permits the company to pay excessive commissions in order to secure business on the higher-priced plans.

Under the full-preliminary-term system, reserve accumulation starts 1 year late, and the full reserve on the level-premium basis is not reached until all premiums have been paid. In the case of an ordinary-life policy the full net-level-premium reserve is not reached until the insured attains the limiting age of the mortality table. The whole premium-paying period is required to make up the lost ground. This means a larger net amount at risk and consequently a higher cost of insurance than on the regular net-level-premium basis. The increased net premium provides for the additional cost of insurance and accretion of reserve. Table 6-4 illustrates reserves on the two bases.

TABLE 6-4. COMPARISON OF RESERVES ON THE NET-LEVEL-PREMIUM PLAN AND THE FULL-PRELIMINARY-TERM PLAN. AMERICAN EXPERIENCE TABLE, 3 PER CENT. AGE THIRTY-FIVE. FACE AMOUNT \$1,000  
(Reserves taken to near dollar)

Years in force	Ordinary life		20-payment life		20-year endowment		10-year endowment	
	N.L.P.	F.P.T.	N.L.P.	F.P.T.	N.L.P.	F.P.T.	N.L.P.	F.P.T.
1	\$ 13	\$ —	\$ 22	\$ —	\$ 35	\$ —	\$ 84	\$ —
2	26	13	45	24	70	37	171	95
3	40	27	68	48	108	76	261	193
4	54	41	92	73	146	115	355	296
5	68	56	118	99	186	157	452	402
10	146	135	256	242	407	386	1,000	1,000
15	233	223	418	411	674	662		
20	328	319	610	610	1,000	1,000		
30	523	517	723	723				

**The Modified-preliminary-term System.** The considerations just discussed gave rise in many states to legal limitations on the use of the full-preliminary-term system. Where such legal restrictions were adopted, the application of the full-preliminary-term system was limited to certain forms of policies, while for other policies a rule was set up by which the company must retain and place in the reserve fund a *part* of the first-year net premium. The general principle is that, while the first-year loading is, under most forms of policies, admittedly insufficient for first-year expense, the part of the first-year net premium which is to be "borrowed" should be limited to what is reasonable and necessary.

Such a limited application of the full-preliminary-term system is called a *modified-preliminary-term* plan. The expression implies (1) full preliminary term, with *no* first-year terminal reserve, for certain low-premium forms only; (2) a *partial* first-year terminal reserve on other forms; and (3) full net-level-premium reserve under all plans when all premiums called for by the contract have been paid or, under certain modifications, at an earlier

date. The expression "modified-preliminary-term system" does not refer to *one* specific basis of accumulating reserves but is the description of a group of reserve systems, identical in principle but differing in detail.

The most widely used modified-preliminary-term system for policies issued before the enactment of the Standard Valuation Law was the Illinois Standard. For policies issued after the effective date (in each state) of the standard law a new and uniform method of modified-preliminary-term valuation is specified in the statement of the *minimum legal standard for reserves*. The new method is the Commissioners' Reserve Valuation Method. It differs only slightly from the Illinois Standard method.

The details of the Illinois Standard method for modified-preliminary-term reserves (which are set forth in the former insurance law of Illinois) are extremely technical. Since the method has no application to policies issued in recent years which are subject to the provisions of the Standard Valuation Law, it is not necessary at this point to describe the plan in detail. In general, the Illinois method requires that, in the case of policies with premiums equal to or greater than the premium for a 20-payment-life policy, full net-level-premium reserves be established by the end of the twentieth year or by the end of the premium-paying period if that is less than 20 years. However, the part of the first-year *net* premium which can be used to pay excess expenses cannot be more than would be available on a 20-payment-life policy under the full-preliminary-term plan. The effect is, in general, that for policies under which the premium is not greater than that for a 20-payment-life policy, the full-preliminary-term basis is permitted while, for other policies (such as a 20-year endowment) some part of the first-year net premium must be retained as a first-year reserve. This is in general accord with the principles which we have stated in discussing the applicability of the full-preliminary-term system.

A comparison of reserves for some of the plans of insurance subject to the Illinois modification with the full net-level-premium reserves and reserves by the full-preliminary-term plan is given in Table 6-5.

TABLE 6-5. COMPARATIVE RESERVES, AMERICAN EXPERIENCE TABLE,  
3 PER CENT. AGE THIRTY-FIVE, FACE AMOUNT \$1,000

Kind of policy	Years in force	Reserve according to		
		Full net- level-pre- mium plan	Full-pre- liminary- term plan	Illinois Standard M.P.T.
10-payment life . . . . .	1	\$ 42.65	\$ ———	\$ 21.78
	2	86.85	48.25	67.96
	3	132.66	98.26	115.83
	4	180.15	150.11	165.45
	5	229.38	203.88	216.90
	10	504.59	504.59	504.59
20-year endowment . . . . .	1	\$ 34.59	\$ ———	\$ 12.59
	2	70.40	37.10	49.22
	3	107.50	75.53	87.16
	4	145.91	115.32	126.45
	5	185.71	156.53	167.15
	10	407.45	386.22	393.95
	15	674.00	662.32	666.57
	20	1,000.00	1,000.00	1,000.00
25-year endowment . . . . .	1	\$ 25.46	\$ ———	\$ 3.46
	2	51.78	27.01	30.60
	3	79.01	54.95	58.68
	4	107.16	83.84	87.70
	5	136.27	113.71	117.72
	10	297.51	279.15	284.00
	15	488.66	475.30	481.23
	20	717.22	709.84	717.22
	25	1,000.00	1,000.00	1,000.00

So far as a company's *entire reserve* is concerned, the difference between the full net-level-premium reserve and the reserve in accordance with the Illinois Standard will depend on the relative proportion of recently issued policies and on the proportions of different kinds of policies. In the case of an established company doing a normal business (as regards distribution by age and plan), the Illinois Standard reserve (total) might be about 95 per cent



of the regular net-level-premium reserve. In a young company or one in which new business is relatively large, the difference between the *total* reserves on the two bases may be much greater.

**Commissioners' Reserve Valuation Method.** The Commissioners' Reserve Valuation Method is identical with the Illinois Standard, with certain relatively minor exceptions. It is defined in Section 4 of the Standard Valuation Law. The definition in the law is in very technical language so that it would be inappropriate, as well as unnecessary, to quote it here. The complexity of the language used to define the method arises in part from the desire to avoid such expressions as "preliminary term," which are likely to convey the misleading implication that, where this reserve system is used, "the first year's insurance is term insurance."

By adopting this method in connection with the minimum standard for reserves (C.S.O. Table with interest at  $3\frac{1}{2}$  per cent) the law recognized (1) that, because of the relatively high rate of expense in the first policy year, some modification of the full-net-level-premium-reserve system may be a practical necessity for some companies—particularly young companies with small surplus funds and a relatively high proportion of new or recent business to total business; (2) that, with suitable limitations, such a modified reserve system is financially sound; and (3) that the Illinois Standard system is, in general, a practical and satisfactory modification of the full-net-level-premium basis for reserves.

Enactment of the Standard Law now also provides a *uniform* basis for modified reserves, replacing, for new policies, the Illinois Standard and the other different modifications enacted by other states.

**Other Modified Reserve Systems.** Other modified reserve systems have been adopted in a few states and in Canada. The special systems of Ohio, New Jersey, and New York (the last known as the "Select and Ultimate Plan" since it permits a reduction in reserves for 5 years based on the saving in mortality in the early years owing to selection) are not now of any practical interest or importance.

The Canadian method, in use since 1927, permits the full-preliminary-term system for ordinary-life policies. For policies with

a higher premium rate the same *amount* of reduction as for an ordinary-life policy is permitted in the first year, the full-net-level premium reserve being required by the end of the premium-paying period.

**Modified Reserve Systems and Established Companies.** The modified methods of setting up reserves which have been described above are not generally used by the larger companies. For recently organized companies modified reserve systems are essential since it is an impossibility for such companies to create, out of the premiums received, the reserve funds required by the full-net-level-premium-reserve system and, at the same time, to pay the actual cost of insurance and the expenses which must be paid under practical conditions in order to maintain or increase the insurance in force through an adequate volume of new business and to accumulate an adequate surplus fund.

It is, of course, true in the case of any company that the whole of the first year's reserve on the full basis cannot be provided out of the first year's premium. As has already been pointed out, it is possible for an established company, nevertheless, to operate on the net-level-premium-reserve plan, drawing on surplus funds to meet the deficiency. The strain is only the net difference between the additional expense for new policies and the repayments out of renewal loadings on prior years' issues. These, in time will tend to offset one another. It is evident, however, that any unusual increase in new business will tend to deplete the surplus. Thus the use of the net-level-premium-reserve system in conjunction with actual conditions as regards the incidence of expense is, to some extent, artificial, and it may be asked whether, if a modified reserve plan which makes allowance for the actual incidence of expense may properly be used by a recently established company, it is not equally appropriate for any company. Such plans, with proper limitations, are undoubtedly sound financially and are more realistic than the net-level-premium system.

Recent changes have involved the use of (1) a modern mortality table and (2) a lower interest rate. Both these changes mean higher reserves, particularly in the earlier policy years and, in general, also higher nonforfeiture values. The result of such

changes in the reserve basis, where the full net-level-premium reserve is set up, is thus materially to increase the strain on surplus from new business and correspondingly to reduce the funds available for dividends in the earlier years on recent issues--unless the gross premium rates are substantially increased. The adoption of a modified reserve system would reduce this strain and would permit somewhat lower gross premiums than might otherwise be considered necessary.

It would be entirely sound, logical, and realistic for even a large, strong, and well-established company to adopt the Commissioners' Reserve Valuation Method for new policies issued on the basis of the C.S.O. Table and a low interest assumption. Practically none of the larger companies have done so. Such a change by a well-established company, involving a lowering of reserve standards, is capable of being misunderstood and might even be regarded by the public, although quite unjustly, as an indication of some underlying weakness. In spite of the practical advantages of such a step, therefore, and since the larger companies, because of their substantial surplus funds and large volume of renewal business, are well able to finance new business on the full-net-level-premium-reserve plan, that plan has been continued by practically all such companies.

### REVIEW QUESTIONS

1. Explain the function of the reserve in level-premium life insurance.
2. Outline the method of calculating the net-level-premium reserve for any particular type of policy (*a*) by the accumulative process; (*b*) by the prospective process.
3. Explain the meaning and illustrate the use of (*a*) "terminal reserves"; (*b*) "initial reserves"; (*c*) "mean reserves."
4. What is a gross-premium valuation? For what purpose would such a valuation be made?
5. What is the "cost of insurance"? How does it enter into the relationship between the reserves for a policy at the ends of any two successive policy years?
6. Discuss briefly the effect on the amount of the reserve of (*a*) adopting a lower interest assumption; (*b*) changing to a mortality table

showing generally lower rates of mortality; (c) making both of these changes.

7. Discuss the following statement: "The large amounts held as 'reserves' by life-insurance companies keep on increasing every year and are evidently unnecessary."

8. Discuss the following statement: "Company A, in which policy reserves are 50 per cent of its total insurance in force, is clearly in a stronger financial position than Company B in which the 'reserve ratio' is only 40 per cent."

9. Give a brief description of the principal modifications of the net-level-premium system which have been or are being used. What is the general purpose of such modified systems?

10. Would the use of a modified reserve system be appropriate for a strong and well-established company?

## Dividends

**Surplus.** In the operation of an insurance company the various assumptions involved in the premium calculations are not exactly realized. Because of the conservative view of the future generally adopted in the calculation of premium rates for participating policies, the actual conditions experienced usually prove to be more favorable than those assumed. Owing to medical selection and the general trend toward lower mortality rates, deaths do not take place at so high a rate as is indicated in an ultimate mortality table based on past experience. Surplus funds, therefore, result from *saving in mortality*. The rate of interest<sup>1</sup> realized on investments is usually greater than that assumed, and in that case the funds of the company are further increased by *excess interest*. Again, the loadings may be more than sufficient to provide for expenses and contingencies, so that a *saving from loading* results.

Surplus may also rise from *capital gains*. These may result either from *writing up* (increasing) the book value of an asset or from the *sale* of an asset for more than the value at which it is currently being carried on the company's books—the "book value."

Losses (decreasing surplus) may, of course, also be incurred at times from any of the above-mentioned sources. Thus the actual mortality may exceed that "expected" as it did in some companies during the influenza epidemic in 1918. The rate of interest earned may be less than that assumed, as was the case in many companies in the middle 1940s. Expenses may exceed loadings, and capital

<sup>1</sup> The term "interest" is conventionally used to mean "income on investment," although a portion of that income is in other forms, such as dividends or rent.

losses may be incurred by the necessity of writing down the book value of an asset or from its sale at less than book value.

The surplus funds may also be increased in other ways. Thus if the amount paid as a surrender value, in cash or in the form of extended insurance or paid-up insurance, is less than the amount of the reserve held against a policy at the date of lapse, surplus will be increased. Such a "profit" frequently represents, in whole or in part, money returned to surplus which was originally taken from it in order to establish the reserve (as was explained in Chapter 6). To that extent it is not a true profit. Nevertheless, the reserve is released, and the excess over the amount allowed as a surrender value increases the surplus as of that date.

It will be seen, therefore, that under practical conditions the actual assets arising from the accumulation of premiums, less expenses and claims, will differ from the amount of the reserves required and that normally a surplus will result.

When a company makes up a financial statement, the surplus may appear in one or more of three classifications: (1) funds not representing actual liabilities but held for special purposes, such as for fluctuation of security values or as a *dividend fluctuation fund*; (2) funds set aside for the purpose of paying dividends in the ensuing or in future years; and (3) unassigned funds not specifically "earmarked" but available for any purpose and to meet any contingency. The first and third of these items may be considered as the *net* surplus and the total of the three items as the *gross* surplus. The surplus which has arisen during the past year from the various sources mentioned above may, in the case of a mutual company (or, in the participating department of a stock company which issues both participating and nonparticipating policies) be distributed to the policyholders as *dividends*<sup>2</sup> (either in the ensuing year or in future years), or it may be added to the general contingency or other special surplus funds, or a part of it may be returned to the policyholders and a part added to the special funds.

<sup>2</sup> The word "dividend" is to some extent a misnomer, the "dividend" on a participating policy being rather in the nature of a refund and not a return on an investment as the term is generally used in commercial transactions.

Under certain circumstances it might be decided not only to return as dividends the whole of such surplus which had arisen during the year but to increase the dividends by adding something from the existing unassigned funds. This might be done, for example, in order to maintain the company's dividend scale in a year when the surplus earnings had temporarily been reduced.

An important question following each year's operations in a mutual company is how much of the total surplus (previously existing surplus plus earnings of the year) should be retained as contingency or other special funds and how much should be distributed to policyholders. The amount of the general contingency fund which should be retained for safety is a matter of opinion. It should be ample to meet any contingency which might be considered reasonably possible, but the fund should not be unduly large, for surplus earnings would thus be unnecessarily withheld from policyholders and the cost of insurance unnecessarily increased.

In New York the amount of surplus which may be maintained is limited by law. This law was one of the results of the insurance investigation of 1905 (the Armstrong investigation) and was largely due to the former practice of showing the amount of funds for future distribution accumulated under "deferred-dividend" policies (described later in this chapter) as surplus instead of as a liability. At that time, the amount of such funds in some companies was very large. The insurance laws which were enacted in New York shortly after the investigation limited the amount of the contingency fund to 5 per cent of the policy reserve in the case of the largest companies. Larger percentages were permitted for smaller companies since they are to a greater extent subject to fluctuations of various kinds. This limit was subsequently increased on two occasions and is now fixed at 10 per cent of the policy reserve (or \$500,000 if greater).<sup>3</sup>

**Distribution of Surplus.** The question of how much of the surplus should be distributed to policyholders as dividends is entirely a matter of business judgment. The amount to be distributed as

<sup>3</sup> The limitation does not apply to companies doing exclusively a non-participating business.

dividends in any year will not necessarily or usually be the actual surplus earnings of the previous year. When current surplus earnings are not sufficient to maintain the scale of dividends, they may be supplemented by drawing on the existing surplus. In the same way, when surplus earnings are more than sufficient to maintain the existing scale, part of the current year's earnings may be added to surplus. When fluctuations in surplus earnings are small, this is a practical system of avoiding frequent small changes in the dividend scale. However, under abnormal conditions or where there is a definite trend in surplus earnings—either up or down—experience and judgment are needed to determine what amount of surplus should be divided among policyholders and what amount kept in reserve against contingencies.

For present purposes it will be supposed that the amount of the surplus earnings available for distribution among policyholders as dividends, or, as it is sometimes called, the *divisible surplus*, has been determined, and there will be considered certain principles upon the basis of which the distribution of this divisible surplus to individual policyholders should be carried out.

The distribution of surplus among policyholders need not, in theory at any rate, be made annually. Many years ago such distribution was always made at intervals greater than 1 year—usually 3 or 5 years. In the United States, however, most states now require that surplus distribution shall be made annually.

In Canada a considerable proportion of the policies issued provides for distribution of surplus quinquennially, although in some companies annual dividends are the rule. Policies may be issued with distribution periods longer than 5 years; but the surplus under such contracts must be *apportioned* at least once in every 5 years, and the surplus so apportioned is a liability of the company until actually distributed. In practice, most companies credit surplus to quinquennial policies annually and hold the amount as a contingent liability. In Great Britain annual distribution is still the exception. Many British companies divide surplus only once in every 5 years. The principal reason for a less frequent distribution is that the amount of the surplus arising or available in successive years may fluctuate considerably, and therefore an annual



distribution might result in considerable changes in the dividend scale between one year and another. The use of 5-year periods smooths out the fluctuations of individual years. A company may, for example, have a very favorable mortality experience one year and an unfavorable one the next. However, there is not, under normal circumstances, sufficient fluctuation of this kind to require a period longer than a year between surplus distributions, except possibly in very small companies. In any case, companies do not divide surplus to the last dollar but retain a substantial contingency fund, which may be increased or decreased in good or bad years. In fact, as noted above, some companies specifically set aside a part of their contingency fund as a dividend fluctuation fund. The dividend scales of most companies do not as a rule fluctuate widely between one year and another. If very large profits which are not expected to continue are made in a particular year, it is not necessary or usual greatly to increase the amount allotted as dividends. Some increase may be made in such circumstances, but a considerable part of any unusual profit is ordinarily placed, temporarily at least, in surplus. On the other hand, if the surplus earnings are lower than usual, it may be necessary to decrease dividends; but if the reduction in earnings is merely an accidental fluctuation, the diminished surplus earnings may be supplemented from the existing surplus or contingency fund and the dividend scale maintained.

*Basis of Allotment.* The determination of the shares of individual policies in the divisible surplus is a complex matter, and the distribution, if it is to be equitable, cannot be made by any simple or arbitrary rule. It would not be correct, for example, to distribute the whole divisible surplus in proportion to the premium paid or in proportion to the sum insured or in proportion to the reserve.

If the surplus were to be divided in proportion to the premium paid during the year, special treatment would have to be accorded to fully paid policies which have contributed a share of the surplus earnings. As regards premium-paying policies, such a rule would mean that a policy upon which the premium is \$100 would receive twice as much as a policy upon which the premium is \$50.

This might be quite inequitable. For example, the former policy might be a 10-year-endowment policy of small face amount and with a very small amount at risk, and the latter an ordinary-life or term policy of much larger face amount and with a large amount at risk. If a large part of the surplus earnings arose (as is usually the case) from favorable mortality experience, the latter policy should get, as a dividend, more, and not less, of such surplus than the former.

Again, if the surplus were to be divided simply in proportion to the sum insured, the holder of a policy which had been many years in force would receive the same share of surplus as the holder of a policy of the same amount taken out a year ago. This would again result in a very inequitable distribution if a considerable part of the divisible surplus had arisen from excess-interest earnings or investment profits. Such profits should evidently be divided more nearly in proportion to the reserves upon which interest is earned and which form the invested funds of the company. A greater share of such profits belongs, generally speaking, to those policyholders whose policies have been a long time in force and against which the company is holding large reserves.

Nor would it be correct to divide the surplus simply in proportion to the reserves of individual policies. This method would give a very large share to a fully paid policy, especially if on the life of a person of advanced age, as compared with the amount allotted to a recently effected policy subject to premium payments. If the surplus had been earned in part either from a favorable mortality experience or from an excess of loading over expenses, this method would be inequitable since profit from mortality is greatest at the lower ages and depends on the net amount at risk (which is high in a recently issued policy), while profit from loading is non-existent in the case of a paid-up, or fully paid, policy.

The conclusion to which one is led by these considerations is that the total amount of divisible surplus should be divided into parts according to the *sources* from which it has arisen and that the actual distribution should follow some plan under which the surplus arising from each source is returned as equitably as possible to those who have contributed it. The mutual system of life

insurance involves the payment of premiums somewhat larger than are considered to be necessary with the understanding that the actual cost will be equitably adjusted by dividends. Under practical conditions it is not possible to refund the excess payments of individual policyholders with exactitude, nor is it necessary to do so. In such matters, as in other respects, policies cannot be considered individually but must be dealt with on the basis of groups or classes, and the system of computing refunds or dividends should be one which aims at approximate equity within such groups or classes of policies. The system of surplus distribution should take into account the principal sources of surplus so far as practicable and should not be simplified to the extent of causing injustice to any group of policyholders. The various systems of surplus distribution which are based on an analysis of surplus earnings according to the different sources from which they have arisen are known collectively as the *contribution plan*. This system, in one or another of its modifications, is used by practically all companies in this country.

**The Contribution Plan.** The general basis of the contribution plan of surplus distribution will best be made clear by considering again the process by which the amount of the reserve, or fund on hand, at the beginning of a policy year changes to the amount of the reserve, or fund on hand, at the end of the year. In the case of any policy and in respect to any policy year (the year clapsing between one policy anniversary and the next) the following relation exists:<sup>4</sup>

Reserve Jan. 1 *plus* net premium *plus* interest on both at the assumed rate *less* tabular cost of insurance = reserve Dec. 31 (a)

This relation, which has been demonstrated in a previous chapter,<sup>5</sup> shows the process of the normal increase in the reserve from year to year. In equation (a), all the factors involved—net premium, reserve, interest, and mortality—are in accordance with the

<sup>4</sup> For convenience the policy year is here supposed to coincide with the calendar year, but this will not necessarily or usually be the case.

<sup>5</sup> See p. 124.

basis of calculation adopted. The interest and mortality rates are the *assumed* rates, not those which have actually been experienced, while no account is taken of expenses.

The equation may be rewritten, substituting the actual experience of the policy year in question for the theoretical or assumed experience, and would then be as follows:

$$\begin{array}{l} \text{Reserve Jan. 1} \text{ plus gross premium less actual expenses plus} \\ \text{actual interest earned less actual cost of insurance} = \text{fund on hand} \\ \text{Dec. 31} \hspace{15em} (b) \end{array}$$

If equations (a) and (b) are compared, it will be seen that, in so far as the current year's operations are concerned, the difference between the actual fund on hand in respect to the policy in question (when viewed as an individual transaction) at the end of the year and the amount of the reserve required for it at that time represents the amount of surplus accumulated during the year and that this surplus (exclusive of any miscellaneous profits, as from lapses, surrenders, or sales of assets) arises from three sources corresponding to the three fundamental elements in the calculation of the gross premium. It consists in part of the loading less the actual expenses, in part of the interest earned in excess of the interest required to maintain the reserve fund according to the original rate assumed, and in part of the difference between the amount of the necessary contribution to death claims and the amount of the contribution that was expected to be required according to the mortality table. Any other sources of profit or loss, which do not specifically arise from the three fundamental assumptions (as to interest, mortality, and expense) are, for the present, ignored.

*Three-factor System.* If there were no other sources of profit or loss, the dividend on an individual policy would theoretically be the sum of the profits from loading,<sup>6</sup> from interest, and from mortality. The amount of the dividend arrived at in this way will depend on plan of insurance, age at issue, and duration of policy.

<sup>6</sup> In the case of fully paid policies not subject to premium payments there would, of course, be no profit from loading.

Most companies now prepare their dividend schedules in this form. This system is known as the *three-factor contribution plan*.

Although surplus may arise and losses may be sustained from sources other than the three mentioned in the preceding paragraph, such additional factors are, for practical reasons, not normally accorded *separate* treatment. It is undesirable unduly to complicate the method, or *formula*, of calculation of dividends or to introduce too great refinements which, when applied to individual policies, would be of little importance. Miscellaneous profits from investments, for example, may be regarded for dividend purposes as similar in nature to the profit from excess interest. Again, the greater part of the increase in surplus from surrenders and lapses arises from recently issued policies. Such "profits" may properly be treated as an offset against the heavy initial expenses which have been incurred in connection with such policies since they represent, largely or entirely, a repayment to surplus of money previously drawn from surplus to make up the reserve. The three-factor contribution plan recognizes but three sources of surplus, and the whole amount to be divided must consequently be divided into three parts which are, for distribution purposes, considered as being the result, respectively, of saving in expenses, of excess interest, and of saving in mortality. Since losses rather than profits are possible, any factor may be positive, negative, or zero. Normally all are positive.

The amount of the aggregate divisible surplus having been determined, the next step is to apportion the shares of individual policies, in other words, to construct a complete dividend schedule for all classes of policies, for each age at issue, and for each duration.

It might seem that a simple method of procedure to obtain the shares of individual policies in the first part of the total divisible surplus, that which has resulted from the excess of loadings over expenses, would be to compare the total amount of such profits available for distribution with the total amount of loading received from all premium-paying policies and to return to each holder of such a policy the same proportion of the loading contained in his premium as the total saving from that source bore to the total

loading. Thus, if the total divisible profit from loadings were 25 per cent of the total loadings, each holder of a premium-paying policy might be allotted, as the first part of his dividend, 25 per cent of the loading in the premium paid by him. The second part of the total divisible surplus, profit from excess-interest earnings, could be dealt with on similar principles. Thus the surplus which was the result of excess interest might be compared with the invested funds of the company to ascertain the rate of *excess interest* earned, and this rate might then be applied to individual policy reserves in order to ascertain the second part of the dividend of each policy. The remainder, or third part, of the total divisible surplus is that which has been produced by favorable mortality experience, and this might be compared with the total net *expected* mortality according to the table, i.e., the aggregate amount of the *tabular cost of insurance*. In this way a percentage would be obtained showing the proportion of the expected mortality cost saved, and the third part of each dividend, that attributable to favorable mortality experience, would then be the same percentage of the individual tabular cost of insurance.

In practice, however, it is desirable to introduce a greater degree of refinement in determining the elements of loading and mortality than is indicated in the foregoing paragraph. Because of the commission payable and other first-year expenses, no saving from loading is usually made in the first year. The proper treatment, for dividend purposes, of the special expenses of the first year is a matter in regard to which there is some difference of opinion. One view is that the additional expense of new as compared with old business may properly be regarded as an expense of the company *as a whole* since new business is necessary if the company is to continue in operation as a "going concern." Also, if the larger mortality savings of the first year, owing to the effect of medical and other selection, are not allotted entirely to new entrants but are offset against excess initial expense, it follows that the whole of such expense should not be deducted in calculating the first-year contribution to surplus. Some allowance for the different rate of expense on new business should, however, be made. Again, the method suggested above (a uniform percentage of

loading for *all* policies) would be unfair because the rate of expense is not the same proportion of the loading for all plans and at all ages and durations. In view of such considerations, a more logical method of distributing savings from loading is to assess an appropriate *expense charge* against each policy (the amount of the expense charge depending on plan and duration) and to deduct this expense charge from the loading. This is the usual method. The expense charge is generally computed partly as a percentage of premium and partly as a *constant* per \$1,000 of insurance. Many different methods of computing expense charges are used, and in nearly all cases the formula provides for a reduction in the expense charge as the duration increases. This allows for the fact that commissions, etc., are nearly always on a decreasing basis.

The distribution of mortality profit should take *attained age* into account since the difference between the expected and the actual mortality experience depends on attained age, being generally greater at the lower than at the higher attained ages.

For the distribution of mortality savings, a scale of percentages of the tabular (expected) cost of insurance *decreasing* with attained age and reflecting the company's actual mortality experience age by age as compared with the table is usually adopted. Such a scale will be so determined as to reproduce approximately the total amount of mortality profit available for distribution. As a rule the mortality factor is not made to depend on duration since entry (as well as attained age), the usual view being that the extra saving in the first few years which arises directly from medical examination and other processes of selection, may properly be offset against the excess expenses in the early years.

The three-factor system, carried out in this way, is a method of surplus distribution which, assuming each factor to correspond reasonably closely to actual experience, yields results sufficiently equitable for all practical purposes.

In order to bring out some of the practical features of the three-factor contribution plan we shall now illustrate the actual amounts of surplus which would, under certain assumed conditions, be allotted to policies on different plans, issued at different ages, and in force for different periods.

**Interest Factor.** The interest factor is the simplest element of the dividend, consisting of *excess interest* (difference between the rate of interest earned and the rate assumed) on, usually, the initial reserve for the policy year at the end of which the dividend is payable.

If it is assumed that the basis upon which net premiums and reserves have been calculated is the C.S.O. Table with interest at  $2\frac{1}{2}$  per cent, Table 7-1 shows the amounts of excess interest, i.e., the *interest factor* of the dividend, on the assumption that the net rate of interest actually earned (or, rather, the rate used in dividend calculations, which is not always exactly the same as the rate earned) is 3 per cent.

The rate of excess interest is thus  $\frac{1}{2}$  per cent, and the figures in the table are, therefore,  $\frac{1}{2}$  per cent of the respective initial reserves according to plan, age, and number of years in force.

TABLE 7-1. DIVIDENDS PER \$1,000 FROM EXCESS INTEREST EARNINGS OF  $\frac{1}{2}$  PER CENT. C.S.O. TABLE,  $2\frac{1}{2}$  PER CENT

Number of years in force	Ordinary life, age at issue		20-payment life, age at issue		20-year endowment, age at issue	
	25	55	25	55	25	55
5	\$0 32	\$0 82	\$0 58	\$0 99	\$1 00	\$1 08
10	0 66	1 54	1 21	1 93	2 12	2 14
15	1 02	2 21	1 91	2 94	3 40	3 33
20	1 41	2 81	2 71	4 16	4 88	4 88

It will be seen from Table 7-1 that the interest element of the dividend, while at first small, becomes larger as the duration increases; also, that this part of the dividend is more important where the policy contains a large investment element.

The effect on dividends of an increase or a reduction in the net rate of interest can be seen from this table. Thus if the dividend-interest rate were  $3\frac{1}{2}$  instead of 3 per cent, the excess-interest rate would be increased from  $\frac{1}{2}$  to 1 per cent, so that the interest factor of the dividend would be doubled in every case. This would make a material difference in the dividends at long durations. The



reader should note particularly that it is the *excess* rate with which we are concerned, so that a relatively small change in the *total* rate may cause a substantial change in the dividend. Thus a reduction in the total rate from 3 to  $2\frac{3}{4}$  per cent, i.e., a reduction of one-twelfth, or  $8\frac{1}{3}$  per cent, of the total rate, means a reduction of 50 per cent in the dividend-interest factor, which would then be  $\frac{1}{4}$  instead of  $\frac{1}{2}$  per cent.

The substantial fall in the net rates of interest earned which took place during the late 1930s and early 1940s resulted in a marked reduction in dividends in most companies. Prior to about 1930 a great deal of participating insurance had been issued on the basis of an interest assumption of  $3\frac{1}{2}$  or 4 per cent (rates which were for many years well below those actually being earned). This was true, more particularly, of older policies. During the 1920s the companies were earning interest rates of about  $4\frac{1}{2}$  to 5 per cent so that these older policies, with high reserves, had been earning very substantial "interest dividends" even on the basis of an assumed rate of  $3\frac{1}{2}$  or 4 per cent. In many cases, the reduction in interest earnings which took place completely wiped out the interest factor of the dividend on such policies and even, in some companies, on policies based on a 3 per cent interest assumption.

Where the rate of interest earned is actually *less* than that assumed, the application of the contribution method calls for a *negative* interest factor, i.e., a *deduction* from the total of the mortality and loading factors.

The effect of using a negative interest factor in the dividend scale is that the total dividend for any plan and age at issue will tend to decrease with duration (since the reserve increases with duration). Such a situation is extremely undesirable from a practical standpoint since many policyholders will not understand it. Therefore, if the rate of interest temporarily falls below the assumed rate, the company may take the view that the deficiency in interest earnings may be considered as a charge against the general contingency fund. In other words the "required interest" is made up by drawing on surplus. If, however, the deficiency continues, it may be necessary to use a negative interest factor in order to maintain equity.

**Mortality Factor.** The mortality factor of the dividend in the three-factor contribution formula is, as already indicated, normally a percentage of the "tabular cost of insurance," i.e., of the contribution to the current year's death claims which would be required if the actual rates of mortality experienced were those of the mortality table used for premiums and reserves.

The percentage for any particular policy generally depends only on the attained age of the policyholder and reflects the company's experience among all policyholders of that age. This is because, in general, the percentage of saving in mortality decreases with age. It is also usual to base the percentages on the *ultimate* mortality experience, i.e., to eliminate the experience under policies which have been less than 5 years in force. The *extra* mortality saving under recently issued policies is not usually reflected in their dividends but is considered as an offset against the *extra* expense of the first year.

TABLE 7-2. DIVIDENDS PER \$1,000 FROM MORTALITY SAVINGS OF 25 PER CENT AT AGE TWENTY-FIVE DIMINISHING TO 5 PER CENT AT AGE SIXTY-FIVE AND OVER. C.S.O. TABLE, 2½ PER CENT

Number of years in force	Ordinary life, age at issue		20-payment life, age at issue		20-year endowment, age at issue	
	25	55	25	55	25	55
5	\$0.73	\$1.68	\$0.69	\$1.61	\$0.62	\$1.57
10	0.77	1.43	0.67	1.26	0.51	1.17
15	0.83	1.58	0.64	1.15	0.32	0.92
20	0.89	1.89	0.56	0.65	0.00	0.00

Table 7-2 illustrates in a general way the *relative* extent of the mortality factors in the dividends on different kinds of policies issued at different ages and in force for different periods. The scale of percentages of the "cost of insurance" used in arriving at the figures in this table provides for 25 per cent of the tabular cost at attained age twenty-five, the percentage decreasing by ½ per cent for each increase of 1 year in age until a minimum of 5 per cent is reached for attained ages sixty-five or higher. This is

a purely illustrative scale (to show *relative* mortality factors) but is not out of line as a measure of approximate current experience as compared with the C.S.O. mortality assumed.

It will be noted from Table 7-2 that the mortality factor of the dividend is quite different in its nature from the interest factor, tending either to be roughly constant in amount or to *decrease* as policy duration increases and being, in general, less for "high-priced" policies, such as limited-payment-life policies or endowments, than for "low-priced policies, such as ordinary life or term. The tendency of the mortality factor to decrease by duration is due to (1) the fact that the "cost of insurance" depends on the net amount at risk which decreases each year and (2) the fact that a decreasing percentage of the cost of insurance is generally used to determine the mortality factors at successive attained ages. This tendency for the mortality factor to decrease (on any given dividend scale) will be much more marked in the case of such policies as endowments, under which the reserve increases more rapidly and the amount of risk correspondingly decreases rapidly.

Although the amount at risk decreases, the cost of insurance does not necessarily decrease. At the higher attained ages the annual increase in the rate of mortality is such that for some types of policies, such as ordinary life, or paid-up life insurance, where the annual reduction in the amount at risk is relatively small, the cost of insurance (and the mortality factor of the dividend) may, as shown in Table 7-2 for ordinary-life policies, increase from one year to the next. This will depend, of course, largely upon the scale of percentages of the cost of insurance adopted in the dividend scale.

*Loading Factor.* The loading factor of the dividend consists of the loading less an expense charge. The expense charge is frequently in the form of "a percentage and a constant," i.e., a percentage of the premium and a constant of so many dollars and cents per \$1,000 of face amount. The constant may be varied according to plan of insurance in order to allow for differences in the average amount of policy by plan. As previously explained, it is not usual to vary the loading or the expense charge in the dividend scale by the amount of the individual policy although,

theoretically, that would be desirable.<sup>7</sup> The percentage element of the expense charge is usually on a decreasing basis, at least for the first few years, so as to reflect the lower expenses after the first 2 or 3 years. The loading factor in the dividend would, in that case, show a corresponding increase with duration.

In view of the rather wide differences among companies in gross premiums for participating policies, and the differences in the amounts of loading, as well as because of the many different ways in which the expense charge is computed, it is not practical to illustrate the loading factor numerically—as has been done for the interest and mortality factors. In a company with high gross premiums the *amount* of the loading factor will normally be much higher than in a company with a low gross-premium scale. Any figures which might be shown could not be representative and would have limited significance. The general characteristic of the loading factor is that (on any particular “scale” or “formula”) it increases, usually quite sharply, for the first few years and thereafter either continues to increase slowly or remains approximately constant.

*Normal Increase with Duration.* The foregoing discussion indicates that under a typical three-factor contribution dividend scale one of the three dividend factors (interest) increases with the duration of the policy, another (mortality) decreases, and the third (loading) normally is either constant or shows a small and gradual increase. The successive dividends on a particular policy where the same dividend scale is maintained for some years, therefore, do not *necessarily* increase. Where the interest rate earned is such that the annual increase in the interest factor is more than sufficient to offset the decreasing mortality factor, the result is a *normal increase with duration*. A drastic reduction in the interest rate, such as was experienced in the 1940s, changes this situation, so far as policies formerly issued (with higher interest assumptions)

<sup>7</sup> The practice, now more common than formerly, of changing a lower *rate* of premium for policies of large amount (“minimum-amount” policies) gives effect to the lower rate of expense on such policies. Another method is to establish a scale of “expense credits” (depending on the amount of the policy), which are added to the regular dividends.

are concerned, greatly reducing this "normal" increase with duration or even, for certain classes of policies, eliminating it. For example, in the case of a 10-year endowment, the amount at risk, and therefore the mortality factor in the dividend, decreases very rapidly. Unless there is a large enough excess-interest factor to offset this decrease, the net result may be a decrease in dividend with increasing duration.

In the majority of cases, however, even if there is only a small excess-interest factor, the dividend scale under the contribution plan will show for most of the principal plans dividends which increase with duration. This *normal* increase owing to increasing duration must be distinguished from increase in the *scale* itself. Theoretically, the dividend scale would be subject to change every year—unless all experience factors remained exactly the same—but for practical reasons it is undesirable and unnecessary to make frequent and unimportant changes in the dividend formula. The *trend* of interest, mortality, and expense is followed, and when conditions justify it, a revision of the scale is made, which may result in an increase or a decrease of the dividend in any particular case as compared with what it would have been if the scale had not been altered. One or more of the factors, according to circumstances, may be changed, and the net results in individual cases will depend on age, plan of insurance, and duration. A change in formula may result in a decreased dividend for some policies and an increased dividend for others. Thus, if the interest factor is decreased and the mortality factor increased—by a change in the scale—term policies may get larger dividends and endowment policies may get lower dividends, at least at longer durations.

**The Experience-premium Method.** The *experience-premium* method of computing dividends is a modification of the contribution plan. Its purpose is to avoid decreases in dividends on any plan even with a very low or zero excess-interest factor.

Under this system the company calculates a complete set of "experience premiums," for all plans and ages at issue, based on a *realistic* mortality assumption and containing provisions for the *actual* expenses expected to be incurred, but using the same conservative interest assumption as in the premiums actually payable.

These experience premiums are, of course, lower than the premiums payable. The difference represents the *level* dividend which could be paid each year, over the whole life of the policy, from mortality and loading gains, *provided* future experience in mortality and expense corresponded with the assumptions made in calculating the experience premiums. The annual dividends payable under this system consist of (1) the excess of the premium payable over the corresponding experience premium for the same plan and age at issue *plus* (2) an excess-interest factor calculated in the same way as under the regular contribution plan.

The theoretical objection to this system is that it does not distribute the combined gains from mortality and loading *as earned* (which would usually mean an annual decrease in that part of the total dividend) but *levels out* all such gains on the basis of an assumed future experience. Thus, less mortality gain is included in the earlier dividends and more in the later dividends than if a regular contribution formula had been used, while the reverse is true of the gain from loading. Future experience (with regard to mortality and expense), also, is unlikely to agree for any long period with predetermined assumptions. Periodically, therefore, new experience premiums will have to be calculated reflecting any material change in the actual rates of mortality and expense. This method is clearly less "scientific" and less "accurate" than the unmodified contribution plan. It must be remembered, however, that "accuracy" and "equity" in the distribution of surplus are ideals which are largely unattainable. Even under the contribution plan the dividends allotted to any particular class of policies can be only an approximation of the "true" contributions to surplus from that class. For example, the mortality experience of the whole company is assumed to apply to small classes of policies, and it is impossible to allocate expenses accurately to individual policies or classes of policies.

These considerations, in conjunction with the practical advantages of the system and the serious difficulties experienced with the unmodified contribution plan in a period of low and decreasing interest rates, have led a number of companies to adopt the experience-premium method of computing dividends.

**Dividend for the First Policy Year.** Sometimes payment of a dividend at the end of the first year is made contingent upon continuation of the policy in force, while frequently no dividend at all is allotted until the end of the second policy year. These are merely different ways of meeting the practical condition that, because of high initial expense and the necessity of establishing the first-year reserve, a policy does not *of itself*, i.e., as a result of its own receipts and payments, produce any surplus in the first year. From that point of view, however, it would perhaps be difficult, in many cases, to justify payment of a dividend until several years after issue. This situation leads to the practical view that excess initial expense may be considered largely as an expense of the company as a whole, and such a view justifies allotment of a dividend even at the end of the first year. An offset to the abnormally high rate of expense in the first year is the abnormally low rate of mortality which results from medical selection. It is therefore practical to combine these elements and to use a graded expense charge which, in effect, *amortizes* the excess initial expense over a period of years. New business is essential to the continued life of the company, and some part of the cost of obtaining it is properly charged against existing policies. At the same time there is no inconsistency in withholding the dividend at the end of the first year if the policy is not kept in force by the payment of the premium then due if, by paying a dividend, the company would suffer an actual financial loss on the transaction. The present New York statute provides that no dividend shall be apportioned for the first year of insurance unless, upon reasonable assumptions about various factors involved (including expense), it was "actually earned." The difficulty about such a rule is to determine what is a reasonable assumption about expense since, if the full actual expenses incurred at issue were charged against the policy, it would usually be impossible to show that any dividend was "earned" in the first year and perhaps even in the second or third year.

**Dividend Options.** Dividends are now almost invariably declared annually as is, in fact, required by the laws of many of the states.

Usually the policyholder may elect to take the dividend in one

of four ways: (1) he may draw it in cash; (2) he may use it in part payment of any premium due (this being, of course, equivalent to drawing it in cash); (3) he may use it to purchase a paid-up *addition* to the amount of insurance payable at the same time as the face of the policy; or (4) he may leave the dividend on deposit with the company and receive interest thereon as on a savings-bank account.

In the case of term policies the third option (additional insurance) is not usually given. In the case of premium-paying policies the majority of policyholders in most companies apply the dividends each year in part payment of premium, and, for simplicity, this course is sometimes encouraged. Where paid-up additions are purchased on a net basis (i.e., where the cash dividend is applied as a *net single premium* to purchase paid-up insurance), as is usually the case, the option to take additional insurance is a valuable one, since the insurance is thus obtained at a low rate of premium. Such dividend additions are generally themselves participating; i.e., future dividends include a "dividend on additions." The total amount of insurance is thus increased each year, and the total cash value of the policy is correspondingly increased.

If dividends are deposited at interest, the total cash value and the amount payable at death will be increased by the accumulated deposits. In event of death the amount payable would be less than if dividends had been used to purchase additional insurance, but the total amount obtainable in event of surrender will be greater, since the whole of the original cash dividends, with interest accumulations, remains to the credit of the policy, whereas, if additional insurance is elected, the accumulation is necessarily reduced by the cost of insurance for the dividend additions.

Sometimes it is argued that, if the policyholder wishes additional insurance, it is better to apply the cash dividend as the *annual* premium for a new additional policy instead of as the single premium for a much smaller amount of paid-up insurance. A new annual-premium policy is, however, more expensive than the paid-up dividend addition since the former is purchased at the regular premium rate, while the latter is purchased at net rates. The result is that, for some years, the additional insurance obtained



on the annual-premium basis is more than the "dividend additions" but eventually will be less. Moreover, any reduction in dividends on the original policy will require additional cash outlays to pay the premiums on the new policy.

**Paid-up and Endowment Options.** Many policies contain provision for applying dividend additions or accumulated dividend deposits either to convert premium-paying insurance into fully paid insurance (paid-up option) or to "mature" a policy by payment in full (endowment option) at an earlier date than called for by the terms of the contract, whether the original "maturity" would have been at the death of the insured, as in life or limited-payment-life policies, or at some stated date, as in endowment policies.

The *paid-up option* will become available when the reserve for the accumulated dividends (whether these be in the form of additional insurance or deposits) is equal to the present value of all future *net* premiums payable. When that occurs, the company can cancel future premium payments if the dividend additions or deposits are canceled. In other words, the reserve for the dividends (or the amount of deposits) is merely added to the reserve for the policy, the result being the reserve for a fully paid policy. Sometimes an option is given to apply each dividend *as declared* to reduce the total number of premiums payable. This is comparable to the *accelerative* plan for maturing the policy as an endowment, as described below.

The *endowment option* will become available when the reserve value of the policy itself, increased by the reserve value of the dividend additions (or the amount of dividend deposits), equals the face amount of the policy. If the *reserve* value is the same as the *cash* value, the option has no significance since the policy may be surrendered at any time for its total cash value. Where the option becomes available before the time at which the cash value equals the full reserve for the policy, the option represents an additional benefit.

There are two forms of the endowment option. Under one of these the dividends remain at the credit of the policy throughout, so that if death occurs before there is a sufficient accumulation of dividends to make the endowment option available the company

pays both the amount of the policy and the dividends. Under the second method each dividend is applied as it is declared to reduce the period of the endowment, i.e., in effect, to convert the policy each year into a different *plan* under which the term to maturity is reduced. All conditions being equal, the second method (sometimes called the *accelerative endowment plan*) will mature the policy in a shorter period than the first, because in the meantime the amount payable in event of death is only the face amount of the policy. Each dividend as credited becomes at once part of the reserve for the policy on the new (accelerated) basis.

**The Deferred-dividend System.** The *deferred-dividend* system, under which only those policies which remained in force for a specified period, such as 20 years, were entitled to dividends, was widely used by some of the largest companies in the United States during the 30 or 35 years preceding the Armstrong investigation of 1905. It is now only of historical interest, at least so far as this country is concerned. Nearly all policies issued on that system have terminated. For many years all participating life insurance issued in the United States has been with the provision for annual dividends, and the laws of many of the states require the annual allocation of surplus and prohibit provision for deferred dividends.

The system in a modified form is, however, still used to some extent in Canada. Under the Canadian law dividend apportionment in the case of deferred-dividend policies must be made every 5 years, and the amount of surplus allotted and set aside for deferred dividends during a 5-year period must be carried as a definite liability until it is paid. Under the Canadian 5-year dividend plan it is usual to pay an interim dividend in event of death during the period but not in event of lapse or surrender.

The deferred-dividend system or, as it was called in its original form, the *tontine* system, was originated by the Equitable Life Assurance Society in 1868. The original tontine contracts provided that no dividend was payable until the total premiums paid, accumulated at 10 per cent compound interest, equaled the sum insured and also that in event of lapse no surrender value would be paid to the policyholder. In that way it was anticipated, and correctly, that the amounts which would be available for distribution

as dividends to those who kept their policies in force and who survived to the date of distribution would be large. On the other hand, those who died before the date of dividend distribution would have had better than a 10 per cent investment. This state of affairs, at first sight apparently advantageous to everyone, was possible only because of the profits to be made from the forfeiture of the policies of those who did not continue premium payments.

The tontine system was successful, although the results were not quite so favorable as was expected by the company. They were sufficiently favorable, however, to make the plan attractive to applicants who felt sure that they would not lapse their policies before the date of dividend distribution. The penalty of total forfeiture in event of lapse inevitably proved to be a very harsh one in many cases where changed circumstances prevented the continuation of the policy in force, and modifications in the plan became necessary to meet frequent objections to this feature. An alternative proposition was offered in the shape of the *semi-tontine* plan under which a surrender value was allowed in event of termination prior to the date of dividend distribution. The dividends on semi-tontine policies were naturally much smaller than those on policies issued on the full-tontine plan. Comparatively few tontine or semi-tontine policies were issued, and the system very soon developed into the deferred-dividend plan, which was adopted by many of the principal companies and which for many years practically replaced in these companies the annual-dividend system. Policies issued on the deferred-dividend plan usually guaranteed quite liberal cash or other surrender values in event of termination after the first few years. Many policies were issued on this system with deferred dividends payable only to policies which remained in force for 5, 10, 15, or 20 years.

Although it was condemned by the Armstrong committee, and although it seems unlikely that the system will ever be revived in this country, the deferred-dividend system has some advantages. Those who die early incur no financial loss on the transaction although they receive no dividends, and it may not seem unreasonable to argue that those who live longer and pay more for their insurance should have a greater share of the savings, although the in-

insurance principle is to that extent defeated. It may be said, too, that a year is too short a period in which to ascertain profits or losses upon a business which depends to so great an extent on the maintenance of average results over long periods.

From the company's point of view the deferred-dividend system had the advantage that it materially reduced the strain on surplus caused by paying dividends in the early policy years before any surplus had actually been created.

The main defect of the system as formerly practiced was not inherent but arose from the fact that *no accounting* was required of the funds which were being accumulated to pay deferred dividends. Amounts set aside from current surplus earnings to pay future deferred dividends were not, prior to 1907, a legal liability. The companies thus had in their hands very large sums of which they had full control and regarding the accumulation of which no accounting was required. These large dividend funds were carried on the books as part of the company's surplus. The possession of such apparently large "surplus" funds was not only misleading but a temptation to extravagance in management. Thus it was the lack of proper accounting which was wrong, rather than any fundamental defect of the system itself. In addition, a system of issuing "dividend illustrations" based on "former results," which were regarded by many policyholders as guarantees, had grown up. Disappointment with actual results as compared with the figures shown in these illustrations caused much criticism of the whole system.

With a proper system of accounting under which the amounts accumulated and set aside for future dividends would be shown as a liability in the company's balance sheet, and thus not diverted to any other use, and with proper control of "dividend illustrations," the deferred-dividend system is not objectionable. The requirement about accounting has been applied in some states since 1907 to all dividend accumulations under previously existing deferred-dividend policies.

**Special Forms of Surplus Distribution.** In addition to regular annual dividends, some companies also pay *extra dividends* or *special-settlement dividends*.

An extra dividend may be either a single payment made after a

policy has been in force a specified number of years or a periodical additional dividend allotted at stated intervals. In the former case the single extra dividend is usually a substitute for a first-year dividend, such an extra dividend being sometimes paid where the contract provides for dividends beginning at the end of the second year. This system has some practical advantages since it reduces the initial outlay and may also tend to reduce the first-year lapse rate. In effect, the method really amounts to assessing a larger share of first-year expense against those policies which terminate before the time when the extra dividend is paid.

Periodical extra dividends at, say, every fifth year have not been common. There seems to be very little theoretical basis or justification for such dividends. A practical advantage of such extra dividends lies in the fact that, while illustrative *average net costs* over a period of years are reduced by these extra payments, only those whose policies are kept in force get the additional payments. In the same way a special dividend paid only at the end of the twentieth year may considerably reduce the average cost for the whole period, but only those whose policies are maintained in force for the whole of that period will benefit. Thus the actual cost to the company is much smaller than if larger *annual* dividends (resulting in the same *average cost*) were payable.

Some companies allow a "special-settlement" dividend at the time of termination of the policy by maturity, death, or surrender, provided that the policy has been in force for a required length of time.<sup>8</sup> The theory of such an extra payment is that upon termination after a certain period the policyholder is entitled to some part of the general surplus to which he has contributed, or the purpose is to adjust a low *guaranteed* cash value to approximate the actual accumulated asset share.<sup>9</sup> The companies which have not favored such a system of extra dividends on termination take the view that normally the surplus will be about the same proportion of the policy reserves when a policy enters as when it terminates and that, since a permanent surplus is necessary, all policy-

<sup>8</sup> In some cases the special-settlement dividend is not payable at *death*. The reason for this is not obvious.

<sup>9</sup> See p. 183.

holders must make some contribution to surplus as one of the normal expenses of operation.

Any system of "extra dividends" involves smaller regular dividends. There may also be a tendency for the extra dividends to come to be considered as guarantees, especially where they have been paid on the same basis for a long period of time.

For a time the attitude of the Insurance Department of New York was that these various types of extra dividends were contrary to the requirement of the law that surplus should be distributed annually and not otherwise, and these irregular dividends were prohibited. The present statute, however, permits special additional distributions of surplus at intervals, provided the basis of allotment is deemed equitable by the superintendent of insurance.

**Annuities.** While deferred annuities of the retirement type have been issued on a participating basis for many years, the ordinary forms of immediate life annuities have usually been nonparticipating.

*Immediate Annuities.* In theory there is no reason why the premiums for annuities should not be computed on the basis of very conservative mortality, interest, and expense rates with provision for dividends in event of a more favorable experience, just as is done in the case of participating life-insurance policies. In practice, however, there are some good reasons why immediate life annuities have generally been issued on a nonparticipating basis. Because of the continually improving mortality among annuitants, little or no profit has been made or may be expected from this source. In fact, in the past, a loss from mortality has been the rule. Loss from mortality may be offset by excess-interest earnings; but these, because of the annually decreasing reserve under an annuity, normally decrease even where the rate of interest earned remains the same. In some recent years, with a decreasing interest rate, this tendency has been accentuated. The loading, in the case of single-premium annuities, is paid but once, and hence this source of surplus is nonexistent after the first year.

Consequently (unless very conservative assumptions are made), the surplus earned on annuities is likely to be small, consisting of

interest profit less mortality loss. It has seemed better to most companies to base annuity rates on the most liberal assumptions consistent with safety and to make them nonparticipating. This, however, involves a certain amount of risk to the company. If annuities are to be attractive and satisfactory from a competitive standpoint, the assumptions about interest and mortality cannot be made unduly stringent, and if adverse changes occur after contracts have been issued, the company is faced with a loss.

In the 1930s, because of the fall in the interest rate and the uncertainties of the future about the mortality rate among annuitants, some important companies adopted the participating basis for annuities. Premiums for such participating annuities are based on lower interest and mortality rates than are used for nonparticipating annuities, so that the *guaranteed* annuity which can be purchased for any given purchase price is less, in general, than under a nonparticipating annuity.

The advantage of such a contract to the purchaser (annuitant) is that, although he does not have such a large *guaranteed* income as under a nonparticipating annuity, he may and, in fact, should get a *larger* actual income. The disadvantage is that the actual income will be uncertain and may decrease in amount. The advantage to the company is the greater degree of safety involved in the more conservative assumptions about the rates of interest and mortality.

Undoubtedly there is much to be said in favor of participating annuities. Many companies still feel, however, that the majority of annuitants want a fully guaranteed annuity of a fixed amount and prefer such an annuity even though the amount which could be obtained under a participating contract might be greater.

The foregoing discussion assumes that dividends will be paid in cash. A method of dividend distribution which would largely eliminate the objections to participating annuities is to apply each cash dividend in the purchase of a small additional annuity. In that way the total income would never decrease, while the guaranteed income would show a gradual increase.

*Retirement Annuities.* Annuities of the retirement type generally involve no mortality feature prior to the retirement age

but are simply accumulations at interest of gross premiums less expenses. Such annuities are practically always participating during the deferment period, the dividends consisting of (1) loading less expenses and (2) excess interest.

### REVIEW QUESTIONS

1. State the various ways in which surplus may be created in the operation of a life-insurance company.

2. Would it be proper to divide surplus among the individual policyholders in proportion to (a) the amount of policy owned? (b) the amount of annual premium payable? (c) the amount of the policy reserve? Why?

3. State the general theory of the contribution plan for distributing surplus.

4. What are the factors used under a three-factor contribution plan? Explain how each is calculated.

5. What is meant by "normal increase (in dividends) by duration"? If a company maintains the same dividend scale for several years, will the dividends on every policy increase each year? Explain.

6. Describe the experience-premium method of distribution of surplus. What are its advantages and disadvantages?

7. Explain why and under what conditions a company may be justified in allotting a dividend at the end of the first policy year.

8. What are the usual dividend options contained in most life-insurance policies?

9. What are the paid-up option and the endowment option contained in some policies?

10. What were the two practical defects of the deferred-dividend system as used in the United States before 1906?

11. Explain the nature and purpose of special-settlement dividends.

12. What are the advantages and disadvantages, both to the company and to the purchaser, of immediate life annuities on a participating basis?



## The Terms of the Policy

The *policy* is the document, prepared by the company, which constitutes the contract of insurance between the company and the policyholder. It is signed by an executive officer of the company. The application for insurance, signed by the applicant or person insured, is usually attached to and made a part of the policy.

In the early days of life insurance, policy forms were short. They contained very little more than provision for payment of the premiums by the person insured and for payment of the sum insured by the company. Additional matter was for the most part in the nature of limitations on the payment of the insurance. Modern policy forms are long, chiefly because of the numerous provisions for the benefit of the policyholder which they must contain in order to comply with the insurance laws of the various states or which have been voluntarily added by the companies. Thus, tables of cash and other nonforfeiture values and provisions for optional methods of settlement or for benefits in event of death by accidental means or in event of total-and-permanent disability have added materially to the necessary length of policy contracts. The modern tendency to use "plain language" in place of technical phraseology has, however, greatly simplified the policy, and it is fair to say that the average policyholder who takes the trouble to read his policy should have no difficulty in understanding its terms. Compared with the fire policy or the usual apartment-house lease (to cite only two examples of documents with which many people have to deal) a life-insurance policy is simplicity itself. These facts are often forgotten or ignored by those who criticize the length and complexity of life-insurance policies.

**Historical Development.** Prior to the era of governmental regulation of policy provisions, and before the expansion of the life-insurance business had given rise to severe competition, the life-insurance contract was in some respects much less favorable to the policyholder than it is now. For example, the early policies contained no provision for a cash or other value of any kind in event of lapse, irrespective of the length of time the policy had been in force. Any surrender value which might be allowed, always much smaller than at present, was available only at the option of the company and usually was granted only if claimed within a short period after lapse. Gains from forfeited policies were thus in the early days a source of large profits, which were in some cases sufficient to pay the entire expenses of the company. It was many years before the practice became common of providing for guaranteed or automatic surrender values in the form of cash, reduced paid-up insurance, or extended term insurance.

In 1861 the Legislature of Massachusetts passed the first *non-forfeiture* law. This law required the companies operating in that state to grant surrender values in the form of extended term insurance, a feature which is explained later in this chapter. The New York Nonforfeiture Law of 1879 provided for the granting of paid-up insurance of reduced amount in case of lapse, but only if such paid-up insurance was claimed by the owner of the policy within 6 months of lapse, a restriction which greatly limited the effective benefit of the law and which was generally taken advantage of by the companies. These laws, together with the general influence of competition, gradually led to a more liberal treatment of policyholders in the matter of guaranteed surrender values. The first step was the guarantee of proportionate paid-up insurance in case of lapse of limited-payment-life policies and endowment policies, this being generally somewhat more liberal than the nonforfeiture laws required. By the end of the nineteenth century it had become common for the companies to insert in their policies tables showing the amounts of guaranteed cash or other surrender values which could be obtained each year in event of discontinuance. In fact, the force of competition was so great that eventually there was a tendency in some instances to undue liberality. It was in this

period that the practice was introduced of allowing the full amount of the reserve as a cash-surrender value after the policy had been in force some years—usually 20.

It was also usual at one time (prior to 1906) to require the applicant to *warrant* the truth of all statements made in the application. Most applicants were not aware that the legal effect of such a warranty was to render the policy void at the company's option if any answer or statement, however trivial, was not literally true. The opportunity was thus offered to an unscrupulous company to evade payment of legitimate claims. The laws of most states now prohibit such a provision and require that statements by the applicant shall be considered to be representations, not warranties, and thus need be only *substantially* true.

There are many other respects in which policy provisions are now more favorable to the insured than formerly. Most modern policies are entirely free from all restrictions about change of residence or occupation except where, because of the special circumstances of the case, it may be necessary to provide otherwise if the insurance is to be granted. Formerly all policies contained definite limitations on residence, travel, and occupation. Under conditions then existing, some of these restrictions were necessary.

**Regulation by the States.** The terms of the policy are to a considerable extent prescribed by law. Policies must contain certain *standard provisions* required by the laws of the states in which insurance is written<sup>1</sup> In many states, policy forms and application blanks must, in addition, be approved by the insurance commissioner before they may be used, and such approval will not be given unless they are in accordance with the laws of the state and are free from any provisions or restrictions considered to be objectionable from the policyholder's point of view.

State regulation of policy forms or of policy provisions arose out of the recommendations of the Armstrong committee, which conducted an investigation of the life-insurance business, in New

<sup>1</sup> The statutes do not, in general, prescribe the exact wording to be used, so that the expression "standard provisions" does not imply that the policies of all companies are identical in regard to these provisions. Provisions more favorable to policyholders than those required by the statutes may be used.

York in 1905. Following the investigation of that committee the insurance commissioners of the several states held a conference in February, 1906, at which a committee was appointed (the Committee of Fifteen) to report on the subject of uniform legislation with regard to life-insurance matters. The recommendations of the Committee of Fifteen followed those of the Armstrong committee in a great many particulars with the result that the insurance laws of the states with regard to policy provisions are very similar.

There will now be considered some of the principal standard policy provisions in conjunction with such other provisions as are usually found in modern policy forms. For convenience of discussion, policy provisions may be divided into three groups: (1) those which relate to payment of premiums, (2) those which relate to payment of the sum insured, and (3) those which are of a miscellaneous nature.

#### POLICY PROVISIONS RELATING TO THE PAYMENT OF PREMIUMS

**Days of Grace.** A requirement in practically all states is that premiums may be paid at any time within a month (or 31 days) following the premium-due date, the policy remaining, meantime, in full force. The policy usually provides that, if death takes place during the grace period, the premium will be deducted from the amount payable. As no premiums are received from those who eventually lapse their policies, although their insurance remains in force during the grace period, there is some loss from this source. The company may, if so provided in the contract, require payment of interest for any part of the grace period taken advantage of by the policyholder, but this is never done. As the companies are generally required to issue premium-renewal notices not less than 15 days before the due date of the premium, there is very little real need for any grace period. The effect of state laws regarding premium notices and days of grace is that the policyholder usually receives his notice 6 weeks to 2 months before the *last* day for payment, and there is thus more than a possibility of

its being overlooked unless the company voluntarily sends a second notice during the grace period, as is sometimes done. The practice of sending a second premium notice toward the end of the grace period was formerly almost universal. Many companies have discontinued this practice, chiefly as a measure of economy and because of rising expenses.

**Deduction of Fractional Premiums at Death.** As explained in a previous chapter, it was formerly the invariable custom to calculate premiums on an *annual* basis, i.e., on the assumption that a full annual premium would be paid in advance each year, including the year in which death occurred. Where premiums were payable "fractionally," i.e., semiannually, quarterly, or monthly, such premiums were properly treated as *installments* of an annual premium, and the policy provided that any such installments for the year in which death occurred and which had not become payable at the date of death would be deducted from the amount payable by the company.

While the deduction of fractional premiums was theoretically correct, it frequently gave rise to complaints by beneficiaries who felt that, by making such a deduction, the company was improperly charging for insurance after the death of the insured. Gradually it became the practice to eliminate provision for the deduction of fractional premiums at death. This practice involves a small additional insurance benefit to those who pay premiums otherwise than annually. However, the cost of this additional benefit is generally covered by the extra loading charge for fractional payment, or it can be included in the *net* premium, by an appropriate calculation, as is now done by some companies. Very few policies now being issued contain provision for the deduction of fractional premiums at death, and most companies do not now enforce such a provision in policies formerly issued.

It has been pointed out that some companies have gone further by providing in their policies for a *refund* of a proportionate part of the *last* premium paid (whether annual or other), for the period from the date of death until the next premium-due date. Such a provision increases the effective amount of insurance *in all cases*. While this provision may be attractive from

a practical and competitive point of view, it is of questionable merit in view of the resulting implication that life-insurance premiums, like fire-insurance premiums, cover just the cost of insurance for the period for which they are paid. Under the level-premium plan that is not the case.

**Nonforfeiture.** Under the level-premium plan (involving payment, in the earlier years, of *more* than the actual cost of insurance) a provision for *nonforfeiture*, i.e., for a return in cash, or in some other form, in event of the discontinuance of premium payments, is essential. This was required as early as 1861 by the Massachusetts law. Except in the case of term insurance for short periods (where the "overpayments" are very small and the granting of nonforfeiture benefits would be impracticable), state insurance laws now require that the policy shall contain provision for cash or modified insurance benefits in event of lapse. The laws specify the *minimum* nonforfeiture benefits. Usually the benefits guaranteed in the policy are substantially greater than the legal minimum.

There are three forms of nonforfeiture benefits, or "values": (1) a surrender value in *cash*, (2) a reduced amount of *paid-up insurance*, payable at the same time, and under the same conditions as the original amount of insurance, and (3) *extended term insurance* (sometimes called *continued insurance*) of the *full amount* payable under the policy, for such period as can be paid for by the cash value.

State laws require, and the policy provides, that, if the insured does not apply for the cash value, one of the other two (insurance) nonforfeiture options— which is nearly always the extended-term-insurance option—shall take effect *automatically*. Further details of the requirements of the law in regard to each of the three options are explained later.

The legal requirements pertaining to nonforfeiture were radically altered by the enactment of the Standard Nonforfeiture Law, which applies, in general, to all policies issued on or after Jan. 1, 1948. The requirements prior to that time and the changes effected by the Standard Law will be explained in the following sections dealing respectively with cash, reduced-paid-up-insurance, and extended-term-insurance nonforfeiture values.

**Cash-surrender Values. General Principles.** We shall first consider some of the general principles which should determine the cash-surrender value. The basic principle is that the amount paid should not be so large as to result in actual loss to the company, i.e., (in a mutual company), to the continuing policyholders.

It might seem that the cash-surrender value should equal the amount of the accumulated overpayments, namely, the *reserve*. It is, in fact, a common practice to allow a cash value equal to the reserve after the policy has been in force for some years—the number of years varying in different companies. There are, however, two good reasons why the cash value should not be as much as the full reserve. The first of these reasons is that the reserve is an *average* figure and has no real significance as applied to an individual policy. If all the healthy lives were to surrender their policies and were to be paid the full amount of the reserves, the total amount of reserve remaining would be insufficient because the rates of mortality among those who did not surrender (the “unhealthy” lives) would be much greater than those assumed for *all* insured. Since a policyholder is very unlikely to surrender his insurance if he is definitely in very bad health, it is reasonable to assume that, *on the average*, those who surrender their policies are in better health and likely to live longer than those who do not surrender. If that is correct, payment of the full reserve to surrendering policyholders will tend to result in loss to the company.

The second reason why the cash value should, in general, always be less than the reserve is that surrenders may, if an excessive value is allowed, cause *financial* loss to the company. They may necessitate the liquidating of investments at an unfavorable time or reduce the amount available for investment when interest rates are high. Surrenders tend to increase at such times. There is also the fact that the guaranteeing of cash-surrender values requires the company to keep some part of its assets in liquid form—such as in cash or government bonds—and thus tends to reduce the over-all rate of interest earned. From this point of view, therefore, a surrender value of something less than the reserve is justified.

These two reasons for allowing less than the full reserve as a cash-surrender value apply at any time and irrespective of the

number of years the policy has been in force. In the earlier policy years there is a much more compelling reason for not paying the full reserve. This is the fact that in the first year (and possibly for a longer period) the actual expenses are greater than the premium loadings. Thus, if reserves are set up on the full-net-level-premium basis, the full amount of the reserve in the early years on a particular policy has not been derived from the premiums paid on that policy but has come, partly, from the company's surplus. The policy will not, in fact, have supplied its own reserve until there has been a sufficient excess of *renewal* loadings over *renewal* expenses to repay the excess expenses of the first year. That may take, perhaps, 5 years or more, according to the amounts of expenses actually incurred and the amounts of loading available. It is evident, therefore, that the cash-surrender value in the earlier policy years must be less than the reserve.

If the view is taken that excess expenses of the first policy year should be considered as an expense of the company *as a whole*, payment of higher cash values in the early years may perhaps be justified, but it seems more reasonable to limit the cash value to such an amount as will not result in the company's being actually "out of pocket" when the actual receipts and disbursements are taken into account.

*The Asset Share.* The foregoing discussion indicates that the proper basis of the cash value is not the reserve but the amount which has actually been accumulated and that some deduction may properly be made from this "actual fund" to allow for the presumably better average health of those who surrender and for the possible financial loss which may be involved in the system of guaranteeing cash-surrender values. The actual fund accumulated under a particular policy or class of policies is called the *asset share*. It results from the actual rates of mortality, interest, and expense as distinguished from the assumed rates involved in the calculation of the premium and the reserve. Because of the incidence of expense, the asset share is normally less than the reserve for some years. Later, the asset share should be somewhat greater than the reserve since it will include the part of surplus earnings which is retained in the general contingency or other surplus fund and



which has not been paid out as dividends. It does not follow, however, that the company should then pay a cash value *greater* than the reserve since (apart from the considerations referred to above) the usual view is that all policies should make a contribution to the permanent surplus or contingency fund. However, some companies pay "special-settlement dividends" based on the excess of the asset share over the reserve at the time of surrender.

*Cash Values Prior to the Standard Nonforfeiture Law.* Prior to the enactment of the Standard Nonforfeiture Law the requirements of the various state insurance laws about cash (and other nonforfeiture) values were not uniform. The law of any state applied to policies issued in that state, so that companies operating in a number of states had to determine their scales of cash values in accordance with the law of the state which had the highest requirement—since it would have been undesirable and impracticable to use different scales of cash values for policies issued in different states.

The effect of this situation was that the *minimum* cash-surrender value which could, in general, be paid by any company operating in more than a few states was the reserve under the policy less a *surrender charge* not exceeding \$25 for each \$1,000 of the face amount of the policy. That was the requirement, for example, under the former New York law. No state required a higher value. In general, no cash value was required by law on any policy until premiums had been paid for 3 years, nor for any policy of term insurance of 20 years or less.

In practice, the cash values actually specified in the policy were equal to the reserve on the basis stated in the policy less a *decreasing* surrender charge, with payment of the full reserve after a period of 3 to 20 years. Many companies also guaranteed a cash value in less than 3 years in the case of policies such as endowments or limited-payment-life policies with short premium-paying periods, i.e., policies with a relatively large "investment element" under which a substantial asset share was accumulated in the early years.

The basis for determining legal minimum cash values described

above is arbitrary and defective. A uniform surrender charge per \$1,000 of face amount, the same for all plans, ages, and durations, is clearly inequitable and would result in cash values which had little or no relationship to asset shares. A specified uniform surrender charge such as \$25 per \$1,000 may be insufficient in some cases at the early durations and excessive for long durations. The expression "surrender charge" is, in itself, objectionable since it implies a *penalty* on surrender, rather than a proper and necessary allowance for excess initial expense. Also, the provision that no nonforfeiture value whatever need be allowed until premiums have been paid for 3 years, irrespective of the type of insurance, is inequitable and arbitrary. The companies endeavored to pay more equitable cash values through the use of decreasing deductions from the reserve and in other ways, but the rigidity of the laws meant that only a rather rough approximation to equity was possible.

*Cash Values under the Standard Nonforfeiture Law.* The two main purposes of the Standard Nonforfeiture Law were (1) to establish a more logical and equitable basis for *minimum* values, based on ability to pay rather than on the amount of the policy reserve and (2) to remove the defects of the previous system.

The basis specified in the Standard Law for determining minimum cash values is the *adjusted-premium method*. It is based on the asset-share principle. It would not be practicable to frame a law which would take account of all the different premium rates, expense rates, and other peculiarities of different companies. That would involve different minimum values for different companies, although it would be logical. The minimum values under the law are based on certain *assumed* excess initial expenses and on the assumption that these expenses are *amortized* (i.e., recovered out of renewal loadings) over the whole of the premium-paying period. The amount of the assumed excess expenses is partly a constant amount for each \$1,000 of insurance and partly a percentage of the net premiums. This method recognizes the fact that expenses depend on the plan of insurance and the amount of the premium, a fact which was not taken into account under the former system. The *amount* of expense assumed in the law was determined on a basis intended to be reasonable and liberal in the case of a properly managed company.

The *adjusted premium* is the net premium *plus* the annual amount required to amortize or pay off the (assumed) excess initial expense. The minimum cash value is the present value of the insurance benefit *less* the present value of the adjusted premiums. It will be remembered that the *reserve* at any time is the then present value of the insurance benefit *less* the then present value of the remaining *net* premiums. The minimum cash value under the adjusted-premium method is thus simply the reserve *less* the part of the excess initial expense which has not yet been amortized; i.e., repaid out of renewal loadings. It is important to note, however, that the *minimum* values are calculated, not on the mortality and interest bases which may actually be used by the company for its premiums and reserves, but on a *specified* basis which is the same for all companies, namely, the C.S.O. Table with interest at  $3\frac{1}{2}$  per cent. This removes one of the defects of the former laws under which a company which maintained reserves on a high basis was compelled to pay higher cash values than a company with a lower reserve basis even though its premium rates and expenses might be about the same.

As under previous laws, the Standard Law merely fixes *minimum* values. The values actually allowed are usually higher than the minimum values. The minimum values are calculated by the adjusted-premium formula but the actual values are not necessarily calculated by that formula. Many of the principal companies now use the adjusted-premium method but with lower assumed expenses than are permitted under the Standard Law. Frequently also the formula is modified to provide for the amortization of the excess initial expense over a shorter period than the full number of years for which premiums are payable so that the guaranteed cash value may equal the full reserve after a period such as 10, 15, or 20 years.

A requirement of the Standard Law is that the policy must include a description of the method of calculating cash values. Where a company uses the adjusted-premium method, or some modification of that method, this involves the introduction into the policy of technical language which the majority of policyholders will not understand.

The Standard Law does not actually require the payment of a *cash* value until after premiums have been paid for 3 years (5

years in the case of industrial policies), but it does require the company to grant a nonforfeiture benefit in the form of *paid-up insurance* (either reduced paid-up or extended insurance) whenever the adjusted-premium formula gives a positive value. In effect, this means that a paid-up-insurance benefit must be granted under almost all types of policies after 2 years' premiums have been paid and in some cases after less than 2 years. In practice it is usual to provide in the policy for a cash value wherever the company would have to grant a paid-up-insurance benefit. The purpose of the law in making this distinction was to avoid the necessity of paying very small cash values in the first 1 or 2 years.

Under the former state laws, no cash or other nonforfeiture value was required in the case of *term* insurance policies of 20 years or less. Under the Standard Law a term policy for more than 15 years or which expires after age sixty-five (the reserve for which may be substantial) must contain provision for nonforfeiture values.

The adjusted-premium method eliminates the principal defects of the former system since (1) it provides for a surrender value (in cash or insurance) at *any* duration where there is, presumably, the ability to pay it without loss to the company; (2) it substitutes a reasonable and logical basis of minimum values for the former arbitrary basis; (3) it makes the required surrender value largely independent of the particular reserve basis adopted by the company; and (4) it eliminates the conception of a *penalty* ("surrender charge") for voluntary termination of insurance.

*Delay Clause.* An important change in policy provisions relating to cash-surrender values was introduced fairly generally in 1934, following the temporary closing of the banks and the resulting state-imposed moratorium on payment of cash-surrender values and the granting of policy loans. A *delay clause* was adopted under which the company has the right to postpone payment of cash values for a stated period. The delay period was usually 3 or 6 months. The Standard Nonforfeiture Law provides for a mandatory and uniform delay period of 6 months.

The advantage of a delay clause is that it gives the company the legal right to postpone payment, and under certain conditions (such as existed during the moratorium) this might be very

desirable. It is only in such circumstances that the right to delay payment would be invoked.

**Reduced Paid-up Insurance.** The amount of reduced paid-up insurance is usually the *equivalent* of the cash value, i.e., the amount which can be purchased by the cash value, when applied as a net single premium, on the mortality and interest bases stated in the policy. Under the Standard Law the amount of reduced paid-up insurance must be such that its present value is at least equal to the cash-surrender value.

The advantage of reduced paid-up insurance is that it provides insurance of the same kind and for the same period as the original policy, though for a smaller amount. The reduction in amount is naturally considerable in the earlier policy years, and even at longer durations the amount of paid-up insurance obtainable may seem small in relation to the premium paid.

For example, in the case of an ordinary-life policy, a substantial proportion of each premium paid is required for the current "cost of insurance," and the amount of reduced paid-up insurance may be less than the total premiums paid. In the case of limited-payment-life or endowment policies the option to take a reduced amount of paid-up insurance is more attractive since the amount in such cases is larger in relation to the premiums paid and, except for the higher ages at issue, generally approximates such proportion of the face of the policy as the number of premiums paid bears to the total number payable.

One advantage of the reduced-paid-up option as compared with extended term insurance is that it is usually participating; i.e., the policyholder continues to receive dividends, although these are naturally much smaller than on the premium-paying policy. In a few companies reduced paid-up insurance is the *automatic* option in event of no other election being made by the policyholder.

**Extended Term Insurance.** Extended term insurance (also called "continued insurance") provides continued temporary insurance protection of the same amount as would have been payable under the original policy, the period of insurance being such as can be purchased by the net cash-surrender value when applied as a net single premium.

In the policies of most companies extended term insurance is the *automatic* nonforfeiture feature.

Under the Standard Law the period of extended term insurance *may* be calculated on the basis of mortality rates not greater than 130 per cent of those according to the table used for computing nonforfeiture values. This makes allowance for the fact that the mortality experience under extended term insurance has been generally higher than under reduced paid-up insurance or under "running policies." The use of a different mortality basis for calculating the periods of extended insurance, however, introduces practical complications, and most companies have not taken advantage of this provision of the law. The result of doing so would, of course, be to reduce materially the periods of term insurance.

If there is an outstanding policy loan, both the amount of term insurance and the cash value used as a net single premium to purchase it are reduced by the amount of the loan, as required by statute. A policy loan existing at the date of lapse could not be continued under extended term insurance. The security for a policy loan is the cash-surrender value, or reserve, of the policy. Under extended term insurance there is usually no provision for a cash-surrender value, while the reserve decreases each year, becoming zero when the term insurance expires.

If there are any dividend additions or, in some cases also, dividend deposits at interest standing to the credit of the policy, the amount of these will be added in determining the amount of the term insurance, and the cash value of such dividends is included in the total cash value applied in purchasing the term insurance.

Frequently the policyholder fails to understand why *both* the amount of insurance and the period of extended term insurance are reduced where there is a policy loan. An unpaid policy loan is, in effect, a prepayment of part of the sum insured. The amount of insurance under the extended-term provision should therefore be the net amount payable at death as at the date of lapse, since the loan cannot be continued.

The loan must, of course, be deducted from the cash value since

it is the *net* cash value which is available to purchase the extended insurance, whatever the amount of such insurance may be. The effect of deducting the policy loan from both the cash value used to purchase extended insurance and the face amount of the policy (in determining the amount of the term insurance) is to reduce the length of the term purchasable, as compared with the term available where there is no loan. That is because, in such circumstances, the deduction is a much greater proportion of the cash value than it is of the face amount of the policy.

In the case of endowment policies the cash value may be more than sufficient, after some years, to purchase term insurance for the full amount to the end of the endowment period. In that case, the excess of the cash value over the amount required to pay for the term insurance for the balance of the original term of the policy is applied to purchase a *pure endowment*, i.e., an amount payable at the end of the endowment period if the insured is then living, and not otherwise.

For example, in the case of a 20-year endowment policy for \$1,000, issued at age thirty-five and 10 years in force, the reserve (C.S.O. Table at  $2\frac{1}{2}$  per cent) is \$430.71.<sup>2</sup> The net single premium at age forty-five for 10-year term insurance of \$1,000 is \$99.72, leaving a balance of \$330.99 to be applied to purchase a pure endowment payable at the original maturity date if the insured is then living. The amount of pure endowment so purchased is \$478.95. Thus, if death should occur before the original maturity date, the full face amount of \$1,000 would be paid. If the insured is still living at the maturity date, only \$478.95 is then payable.

**Automatic Premium Loan.** A provision that, in event of non-payment of premium, the amount of the premium will automatically be advanced as a loan (provided that the cash-surrender value of the policy is sufficient) is not, strictly speaking, a "non-forfeiture option" or "option on lapse" since the policy does not lapse but remains in full force subject to the loan.

Such a provision is widely and increasingly used, although there is room for difference of opinion about whether it is altogether

<sup>2</sup> This illustration assumes that the cash value at the end of the tenth year is the full reserve, which is not necessarily the case.

desirable from the point of view of either the policyholder or the company. In 1934 the law of Rhode Island was amended to require that all policies issued thereafter in that state should contain provision for *automatic premium loan*. A similar law was passed in Montana in 1943 but was repealed in 1947. The Rhode Island law apparently prevents policyholders in that state from electing that any nonforfeiture option (reduced paid-up or extended term insurance) shall take effect *automatically* upon nonpayment of premium but does not prevent the policyholder from electing one of these options at the time of lapse.

With the exception of policies issued in Rhode Island, very few companies in the United States include in their policies an automatic-premium-loan provision which takes effect without a specific prior election by the policyholder, but most Canadian companies do so. A substantial group of United States companies have such a provision in the policy, effective only if elected by the policyholder, and most companies which do not have such a provision will add it by endorsement on request.

The advantage to the policyholder of an automatic-premium-loan provision is that, in event of inadvertent nonpayment of premium as by absence from home or temporary inability to pay the premium, the policy is kept in full force. Unlike the automatic nonforfeiture options (reduced paid-up or extended insurance), this provision makes it possible to resume premium payments at any time (so long as the equity in the policy remains sufficient to pay premiums as they become due) without furnishing evidence of insurability. Also, the fact that the policy remains in full force means that any "special benefits," such as disability-income, waiver-of-premium, or accidental-death benefits, which would not be continued under a nonforfeiture option, remain in force, while, if the policy is participating, the policyholder continues to receive dividends, which would not usually be the case under extended insurance or, sometimes, under reduced paid-up insurance.

On the other hand, unless the provision is used, as intended, only as a temporary convenience, it may prove to be to the policyholder's disadvantage. If premium payments are *not* resumed, not only will the *period* during which the policy will be kept in force



usually (although not always) be less than under extended insurance, but the *amount* payable in event of death will be less and will steadily decrease as the indebtedness increases. During the earlier policy years the period of insurance under the automatic premium loan may be as great as, or greater than, under extended insurance. This is because the surrender of the policy is postponed, and the cash value at the date when the insurance ceases is a relatively greater proportion of the reserve (i.e., there is a smaller "surrender charge") than where extended insurance takes effect by the surrender of the policy immediately upon default in payment of premium. In the later policy years extended insurance will usually give a longer period of coverage than an automatic-premium-loan provision.

A practical disadvantage from the policyholder's standpoint is that where such a provision exists he may be inclined to use it too readily, and this may lead to eventual lapses which might not otherwise take place.

From the company's point of view such a provision also has both advantages and disadvantages. Where premium payment is resumed promptly, the system is simpler and much less expensive than to lapse the policy, set up the extended insurance, and then, in a short time, reverse these operations and reinstate the policy. In these circumstances the automatic loan is less expensive to operate than either extended insurance or the granting of a regular policy loan for a short period. However, the reverse is true where premium payments are not resumed.

Again, in event of death during the period covered, the company is better off financially under automatic premium loan since it receives the additional premiums by deduction from the policy proceeds, but it incurs additional outlays on account of commissions, premium taxes, and dividends which would not be incurred under extended insurance. There is also some possibility of loss through adverse selection because of the right to resume premium payments without evidence of insurability.

Since the system reduces the incentive and eliminates the necessity on the part of the policyholder of paying premiums promptly and also the incentive of the agent to see that premiums

are paid on time, it may tend to increase the lapse rate. There is, however, no statistical evidence that this is so. The experience of the Canadian companies, most of which have this provision in their contracts, apparently does not indicate a higher lapse rate on this account.

A modification of the automatic-premium-loan provision, which eliminates most of the disadvantages referred to above, and which has been used by at least one company, is to provide for an automatic loan only for the first or first two unpaid premiums, one of the nonforfeiture options taking effect automatically upon non-payment of the next subsequent premium. Such a modification takes care of accidental lapses through oversight or those caused by temporary shortness of funds, which is the main, if not the only, purpose of the provision.

**Reinstatement.** All policies give the right of reinstatement within a reasonable time after lapse, usually 3 or 5 years, provided that the insured is still an insurable risk. The laws of many states require that such a right be given within 3 years of lapse. The company could not afford to permit reinstatement, even after a brief period, without some evidence of insurability. If that were done, those who had lapsed their policies and who unexpectedly found themselves in bad health would, in most cases, take advantage of the right to reinstate, while many of those in good health would not do so. Usually, however, a medical examination is not required where the lapse has occurred very recently, say, within 2 or 3 months, the company in such cases generally accepting a statement from the insured that he is still in good health. It is generally held that under the usual policy provision requiring "evidence of insurability satisfactory to the company" (not merely a satisfactory *medical* examination) the same degree of selection may be made by the company on an application for reinstatement as on an application for insurance. In other words, restoration may be declined for other than medical reasons, for example, impaired habits or unsatisfactory financial standing.

The *right* of reinstatement does not usually apply where the cash value of the policy has been paid or, sometimes, where the policy has been continued as extended term insurance for the full

time available and is no longer in force. The right of reinstatement, while a proper one so long as it covers cases of lapse through inadvertence or through inability to pay premiums, may properly be restricted in this way since, where either the cash-surrender value has been paid in full or the extended insurance has expired, the insured has received the full consideration for his premiums and has no right to any terms different from those offered to new applicants. As a matter of fact, it would frequently not be financially advantageous to reinstate a policy some time after it had ceased to be in force if it were necessary to pay all arrears of premium with interest—the usual terms. One reason for requesting reinstatement in such cases would be in order to obtain a form or type of policy no longer issued, such as a policy containing the former liberal provisions for benefits in event of total and permanent disability or optional-settlement provisions more favorable than those in policies currently being issued.

The companies take a liberal view in regard to reinstating policies and, as a rule, do not adhere strictly either to the restrictions permitted by the various state insurance laws or to their own policies. Under normal conditions where the insured can furnish satisfactory evidence that his health has not deteriorated since lapse, there are very few cases in which reinstatement will not be permitted. The terms would usually be payment of past-due premiums, less dividends, with interest together with either payment in cash of any indebtedness which existed at the date of lapse with interest or reinstatement of such indebtedness increased by past-due interest if the cash value of the policy after reinstatement were sufficient.

In the case of term insurance (under which no nonforfeiture option is usually granted) the cost of reinstatement is sometimes limited to the current premium. In that case no dividends would be credited for the period for which no premiums had been paid.

*Reinstatement by Redating.* A method of reinstatement which is sometimes adopted when lapse occurs before the policy has acquired a cash value is to reissue the policy, advancing its date by the period during which the policy has been out of force, allowing credit for all premiums paid on the original policy. The pre-

mium payable on the reissued contract would be that applicable to the age on the advanced date of issue and might therefore be greater than the original premium. This method is not practicable after the policy has acquired a cash value since under the non-forfeiture provision the insurance would remain in force for at least part of the time between lapse and reinstatement.

### POLICY PROVISIONS RELATING TO PAYMENT OF THE SUM INSURED

The policy is usually made payable upon receipt of proof of the death of the person whose life is insured; and although old forms of contracts which provide for an interval of some months before payment is due are still in force, the amount due is now always paid immediately upon establishment, by the claimant, of the right to receive payment. Occasionally payment is made as of the date of death, interest being allowed from the date of death to the date of payment. A reason for this is to maintain consistency between claims paid in a single sum and those under which one of the optional modes of settlement (described below) has been elected. In the latter case the company issues a *supplementary contract* providing for the payments under the settlement. Sometimes the supplementary contract is dated as of the date of death, with interest running effectively from that date. Where that is the case, it is consistent to credit interest from the date of death on single-sum payments.

The principal policy provisions relating to the payment of the sum insured under policies issued in recent years are the *incontestable clause*, the *war clause* or *war-and-aviation clause*, and the provisions for *optional modes of settlement* of the amount payable.

**The Incontestable Clause.** The majority of the states require, and the policies of all companies provide, that (except in case of any provisions for benefits in event of disability or accidental death) they shall be *incontestable* after a stated period, usually either 1 or 2 years, from date of issue except for nonpayment of

premiums. The reason for such a provision is found in the character of the life-insurance contract. The contract is based on information supplied by the insured, and it is undesirable that the company's liability for payment be disputed after the insured is dead, when it may be difficult either to prove or to disprove the truth of statements made many years earlier. In the absence of fraud it is desirable that certainty of payment be assured, and a provision to that effect is, perhaps, necessary to ensure the confidence of the public in the institution of life insurance.

Clauses in use by the companies are, in general, of three types. The first may be termed a "straight" incontestable clause. Such a clause may read as follows:

This policy shall be incontestable after it shall have been in force for two years from its date except for non-payment of premiums and, at the option of the company, except as to provisions relative to benefits in the event of total and permanent disability and provisions which grant additional insurance specifically against death by accident.

It will be noted that there is no exception in event of fraud in obtaining the policy. Strictly speaking, such an exception should not be necessary, since nothing is more clearly established in the general law of contracts than that fraud renders a contract void. The weight of judicial opinion in the United States, however, is that a policy obtained by fraud can nevertheless be enforced against the company under the provisions of an incontestable clause, provided, of course, that the period of contestability has expired. The situation is different in Canada, where the laws provide that, in event of fraud, the policy may be contested irrespective of the time it has been in force. Since under the type of clause quoted above it has also been held that death of the insured during the period specified does not suspend the operation of the clause, it follows that where death occurs shortly after the issue of a policy obtained by fraud, the beneficiary could, by merely waiting until the expiry of the contestable period before notifying the company of the death of the insured, recover full payment, unless the company had in the meantime found out about the fraud and had brought an

action to rescind the policy. The company must, therefore, satisfy itself during the period of contestability about the correctness of the statements in the application.

The exception in regard to nonpayment of premiums is probably superfluous, since not only is the consideration for the contract (the premium) fundamental to its existence but, in any case, the contract itself specifies what modifications of the benefits are to take effect in event that a premium is not paid, and any contest could relate only to such modified benefits.

The laws of most states permit a further exception of "violation of any provision of the policy relating to naval or military service in time of war." Except for policies issued in time of war, or when war was imminent, it has not been and is not now the practice to include in the policy any restrictions about military or naval service. In the absence of any such restrictions the company takes the risk that the insured may, at some future date, engage in such service. The situation with regard to policies issued in time of war is discussed later.

In regard to the "special benefits" (i.e., disability and double indemnity) a different situation exists from that relating to the life-insurance contract. The provisions relating to such benefits should be excluded from the operation of the incontestable clause since otherwise the company might be compelled to admit claims under circumstances where it would not properly be liable. Such exclusion would be permissible under the laws of most states. In New York, however, a provision for benefits in event of total and permanent disability must be incontestable after 3 years.

The second type of incontestable clause is the same as the one already considered except that the policy is incontestable after it has been in force for a stated period *during the lifetime of the insured*. Because of the construction placed by the courts on the first type of clause, holding that rights under the policy were not fixed by the death of the insured, many companies have adopted this modified wording. The effect is that, if death occurs within the specified period, the claimant cannot gain any advantage by postponing notification or claim until after the contestable period has expired.

A third type of clause provides that (with the exceptions already noted)

... this policy shall be incontestable after one year from its date of issue unless the insured dies in such year, in which event it shall be incontestable after two years from its date of issue.

This clause is more favorable to the insured than a straight 2-year clause, since the policy becomes incontestable if the insured is still living at the end of 1 year. It is also more favorable to the insured than the second type of clause, since, under the third type, in event of death within the first year, a disputable claim could be withheld until the end of the second year, when the policy would be incontestable unless the company had obtained a rescission. The company is, however, partly protected by the fact that in such a case the claimant would have to wait at least a year.

The tendency in recent years has been to make the incontestable clause more stringent by adopting a 2-year period instead of a 1-year period. The majority of the principal companies now use a 2-year clause, many of them having changed from a 1-year clause.

An important question about the scope of the incontestable clause was decided by the New York Court of Appeals in 1930.<sup>3</sup> The company desired to issue policies restricting the coverage by excluding entirely the risk of death "as a result of service, travel, or flight in any species of aircraft except as a fare-paying passenger." The superintendent of insurance refused to approve such a provision on the ground that it was inconsistent with the requirements of the New York law that policies should be incontestable after 2 years except for specified reasons as described above and not relating to participation in aeronautics.

Such a contention is unsound. The law does not require the company to assume any and every hazard or none at all. It does require that, *having contracted to cover a specified hazard*, it shall not, after a certain period, contest its contract. If the policy excludes a particular risk and if the insured dies from that cause, the

<sup>3</sup> *Metropolitan Life Insurance Company v. Superintendent of Insurance*, 252 N.Y. 449.

company, in refusing payment, is not contesting the policy since no contract exists or ever existed to cover that contingency. The court held that there was nothing in the law inconsistent with the issue of such a restricted policy, saying,

. . . the provision that a policy shall be incontestable after it has been in force during the lifetime of the insured for a period of two years is not a mandate as to coverage, a definition of the hazards to be borne by the insurer. It means only this, that within the limits of the coverage, the policy shall stand, unaffected by any defense that it was invalid in its inception, or thereafter became invalid by reason of a condition broken.

This decision is important since it defines the meaning of the incontestable clause and clarifies the right of the company to issue a policy under which there is restricted coverage during the whole lifetime of the contract.

Sometimes information is received by the company, after the issue of a policy, which shows that facts have been misrepresented by the insured. In such cases the company may, within the period of contestability, demand that the policy be returned and rescinded. In such cases the company usually refunds the full amount paid in premiums, less dividends, making no charge for the expenses incurred.

Where a policy has lapsed and has been reinstated, the provisions of the incontestable clause would apply, regarding statements made in connection with the reinstatement, from the date of reinstatement.

*Misstatement of Age.* An adjustment made because of misstatement of age does not come within the operation of the incontestable clause. Most states have a standard policy provision requiring that in event of a misstatement of age the amount of the policy shall be automatically altered to such amount as would have been purchased at the true age by the premium actually paid. This is a good practical rule. Frequently errors in age are not discovered until the death of the insured, which is usually many years after the date of the application. If such errors in age were within the scope of the incontestable clause, it would be



necessary to demand proof of age in all cases before a policy could be issued. While this might, in any case, be a desirable practice, and one which would save many claimants a good deal of trouble, many persons would be unable to furnish such proof, and the requirement would, in some cases, prevent the issuance of the policy. It is, therefore, not usual to call for proof of age at the time of issue. If proof is available, it is to the advantage of all concerned that it be submitted during the lifetime of the insured so that age may be formally admitted. Frequently, because of ignorance or carelessness, incorrect information is given at the time a claim is made, thus causing unnecessary trouble and delay in settlement.

*Suicide.* The risk of death by suicide of the policyholder, whether sane or insane, is usually specifically excluded either during the first year or for the period of contestability, with the provision that, in event of suicide within the period specified, payment will be limited to a refund of the premiums paid. This provision is independent of the incontestable clause. In view of the decision in the Metropolitan case referred to above the companies probably could, in some states at least, exclude the risk of suicide entirely. There is, however, no reason to exclude the risk altogether. The possibility of future suicide is one of the hazards of life, and deaths from suicide are included in the mortality table. To eliminate the risk entirely would materially reduce the value of a life-insurance policy and might work great hardship on dependents. There has been, however, a tendency to increase from 1 year to 2 years the period during which suicide is not covered. Normally, suicide is an element in the death rate the same as any other cause of death, and the object of the suicide clause is merely to protect the company against fraudulent cases, i.e., applications made in contemplation of suicide.

*War Clauses.* For many years it has been customary not to include any restrictions about war service in policies on the lives of civilians issued in time of peace. Thus, possible extra hazards which might arise because of *future* wars have generally been disregarded. This was justified on various grounds. It is, in general, undesirable to place any *unnecessary* qualifications or limitations

on the liability of the company to pay the amount of insurance at death since any such limitations tend to defeat the purposes for which insurance is taken. Also, under the conditions which have prevailed in the past, the risk assumed in time of peace is not very great since, normally, a large proportion of the policyholders of a company would not be liable for active service in event of war. Experience in both world wars showed that, while the additional death claims payable as a result of war under policies formerly issued without any restriction were quite substantial in amount, they formed only a small percentage of the *total* death claims payable and had only a comparatively slight effect on the total death rate. In fact, in many companies, the *over-all* death rate in the war years was as low, or lower, than in the previous years of peace.

In view of the development of the atom bomb, directed missiles, and other methods of scientific mass destruction, and the fact that these would be directed against civilians as well as those in the armed forces, with possibly catastrophic results, it is sometimes suggested that all life-insurance policies being issued now should exclude liability for war-caused deaths. There is, of course, some possibility that, in event of another war, companies would sustain disastrous losses, sufficient to affect their solvency, from the mass destruction of civilian populations. The general view, however, is that this is a risk which must be taken. The general exclusion of liability for war deaths in policies issued in time of peace seems, for the present at least, to be extremely improbable.

In time of war the situation is entirely different. When war is imminent or has actually been declared the company cannot assume the war hazard at the regular rates of premium since there would, in that case, be a great increase in the demand for insurance from those who had been or were likely to be called into the armed or auxiliary services or who, for other reasons (such as travel to war zones), expected to incur additional hazards.

The most obvious apparent course for the company to follow is to charge a suitable extra premium in such cases. In previous wars, policies were, in fact, available in a number of companies on that basis for nearly all categories of service except those which were extremely hazardous and for which the necessary extra premiums

would have been prohibitive. Most companies in the United States have felt, however, that because of the unknown elements in the risk it was impracticable or impossible to determine rates of extra premiums which would be safe for the company and satisfactory to the policyholder. In these companies and in the others, when the applicant was not willing to pay the extra premium required, the situation was met by limiting or excluding the extra risk by using a *war clause*.

During the Second World War the civilian population of the United States and Canada was not subject to war hazards, except to a very small extent (as from possible enemy bombing or sabotage), and, in general, the war clauses limited liability only in respect to those in the services or the auxiliary services or to those civilians traveling outside the home areas. In some companies a war clause was included in all policies issued irrespective of age or sex; in some, only in policies within certain age limits.

So far as service in the military or naval forces, or auxiliary units serving with these forces, is concerned, the war clauses used were of two main types, distinguished as *status* clauses and *result* clauses.

Under a status clause the company assumed no liability while the insured was in service outside the home areas. Under a result clause the liability was eliminated only if death was the result of war. In either case in event of death in circumstances excluded by the war clause it was usually provided that the company would refund the premium paid, less dividends, with interest.

While a result clause may seem to be more reasonable and is, of course, more favorable to the policyholder, difficulties frequently arose in deciding whether death in some cases was or was not the *result* of war. Thus, a result clause is more troublesome to apply from an administrative standpoint. To avoid such difficulties some companies adopted a *status* clause. Usually this clause excluded *all* deaths occurring while in service outside the home areas as well as deaths occurring inside the home areas which resulted from service outside these areas.

In regard to civilians the usual provision in the war clause (which was included in *all* policies) was that the company was not liable in event of war-caused death *outside* the home areas and

*within the first 2 years after issue.* There was no corresponding *time* limitation in regard to *service* deaths, so that the exclusion in that case operated as long as the policy was in force, unless, as was later the case, the restrictions of the war clause were voluntarily removed by the company.

After the end of the Second World War the companies not only discontinued the inclusion of war clauses for new policies but, in most cases, canceled all war clauses in existing policies. During the Korean War, which began in 1950, there was no general resumption of the practice of including a war clause in all policies. Some companies used a war clause for those in the services or who might be called into service. Others relied on the limitation of insurance to an amount such as \$5,000 in those cases. In any case where a war clause is used, the result clause is now generally included. This clause is generally preferred, although not required, by the state insurance departments.

With regard to the "special benefits" (i.e., provisions for benefits in event of total and permanent disability or for "double indemnity" in event of death from accidental means) the policy generally provides (at all times) for either the *termination* or the *suspension* of the special-benefit provision while the insured is in military or naval service in time of war. In addition, the extra risks arising from possible war service are frequently specifically excluded from these provisions. Where the disability provision is *terminated*, reinstatement after the conclusion of war service is subject to evidence of insurability, but usually the company will take a liberal attitude in regard to reinstatement, declining to reinstate only where disability actually exists or seems likely to occur as a result of war service.

Suspension of coverage during war service does not give the company the same protection as termination but, from a practical standpoint, is considered preferable and sufficient by many companies. In that case the benefit provisions are automatically reinstated upon payment of the additional premiums. The company would not, of course, be liable after reinstatement for claims where disability was caused or accidental death occurred during the period of suspension.

**Aviation.** During the Second World War the companies also usually included a provision, either separate or in the war clause itself, excluding liability where death occurred as a result of travel in any type of aircraft *except* as a result of travel as a fare-paying passenger on a regularly scheduled service. For some years most companies have been willing to assume in policies issued in time of peace the risks involved in regular air travel.

Air travel is now so general and the hazards of regular passenger flying are so greatly decreased that whatever risks are involved are relatively small and are applicable to a substantial proportion of all persons insured. Thus they may reasonably be regarded as a part of the normal risk covered by the regular premiums. The situation is, of course, different where some special hazard exists, as in the case of pilots, crew members, or other persons who are subject to a definite additional risk from aviation. In such cases the company may either charge a suitable *extra premium* or modify the contract by an *exclusion clause*, eliminating liability for death resulting from aviation. This subject is dealt with more fully in Chapter 9.

**Optional Modes of Settlement.** Practically all policies now issued which are, by their terms, payable in a single sum contain provision for optional modes of settlement. It is customary to permit these optional settlements either at death or maturity or, within suitable limitations, upon surrender of the policy. The usual options offered are (1) payment of interest, annually or otherwise, at a specified minimum guaranteed rate upon the policy proceeds during the lifetime of the beneficiary or for some other period fixed by the election of the insured (or of the beneficiary at the death of the insured) together with payment of the principal sum at the end of that time; (2) payment of equal installments, annually or otherwise, including both principal and interest, for a fixed period of years; (3) payment of equal installments for a fixed period of years as in (2) but with continuation of such installments to the beneficiary for life if still living at the end of that time, the amount of the installments depending not only on the length of the fixed period as in (2) but also on the age and sex of the beneficiary; (4) payment of installments of a selected

amount until the principal sum is exhausted, interest being credited annually on the unpaid balance of the insurance; and (5) application of the proceeds of the policy to the purchase of one of specified forms of life annuities.

It is generally provided that when an optional settlement is to take effect, a *supplementary contract* shall be issued in exchange for the original policy, such supplementary contract setting forth the terms of the special settlement. Sometimes the settlement is provided for by endorsement of the policy, which is retained by the beneficiary after it becomes payable.

The optional settlements (other than life-annuity settlements) are usually "participating." In the case of option (1) above, the effect of participation is to increase the rate of interest received by the beneficiary. Some companies allow a smaller "excess rate" if the principal amount is subject to withdrawal at the option of the payee. In the case of options (2) and (3) the "capital" (i.e., principal sum) is gradually being paid out, since each installment consists in part of principal and in part of interest. The amount of each guaranteed installment is increased by the excess-interest earnings on the remaining capital, and the actual total installment, therefore, decreases as the remaining capital decreases, provided that the total interest rate remains the same. Under option (3) the participation in excess interest usually extends only to the "installments certain." Under option (4) the effect of participation in excess-interest earnings is to increase the period during which the stated income will be paid. This option differs from option (2) since each total payment is of the selected amount, whereas under option (2) the total amount of each payment, including excess interest (or "interest dividend"), normally decreases. Under option (4) there is an income of fixed amount for an indefinite period, while under option (2) the period of payment is guaranteed but the actual amount of the income depends on the excess-interest rate, or "dividend" as well as on the net amount of the principal.

The use of these alternative modes of settlement has greatly increased. The value of such settlements in providing a safe and convenient method of investment, in conserving the proceeds of life-insurance policies, and in ensuring that the original intentions

of the insured will be carried out, as well as the many special uses and purposes which the optional settlements can be made to serve, have been recognized in a rapidly increasing degree. For many years a substantial proportion of the new policies issued have contained provision for settlement by one of the optional modes.

If the optional settlement is selected by the insured before maturity of the policy, the policy sets forth by endorsement or rider the details of the special settlement elected. In many cases, whether or not an election was made at the time the policy was issued, an election is subsequently made by the insured, while in other cases election is made by the beneficiary at the time the policy becomes payable. When the election is made by the person insured, the object is usually to ensure that the principal sum will not be lost by unwise investment or speculation on the part of the beneficiary. Consequently, unless the right is specifically given to the beneficiary to change the form of settlement provided for, no change can be made when the proceeds become payable. Most elections of optional modes of settlement are of this nature, i.e., without the right to the beneficiary to change the method of payment or to commute future payments for a single sum at any later date after the settlement has commenced. For this reason, among others, provisions for optional settlements should be reviewed by the insured from time to time and any desirable changes made, so that the settlement will be suitable after the insured's death.

Provision may also be made for the continuance of interest or income payments certain to a secondary payee after the death of the primary payee, or it may be provided that any principal remaining unpaid at the death of the beneficiary will be paid to his estate or as otherwise directed in the election of the settlement.

The optional settlements are primarily intended for the benefit of payees and beneficiaries unaccustomed to dealing with the investment of funds. In most companies they are not available if the beneficiary is a corporation, a partnership, or an association. These special settlements are not appropriate for certain special classes of policies which provide for payment in a particular form, although, if there is an option to take, or a definite provision for,

a single-sum settlement, or if, as in the case of the family-income policy, the proceeds may, under certain circumstances, become payable in a single sum, the optional settlements are also usually available.

An important point in regard to the optional settlements elected by the insured is that under most state laws payments under the supplementary contract are not subject to legal process or attachment for the claims of creditors of the beneficiary (except claims for "necessaries"). In New York such payments are not attachable "if the parties to the trust or other agreement so agree."<sup>4</sup> The usual provision in the supplementary contract to cover such an agreement is that "benefits accruing hereunder shall not be transferable nor subject to commutation or incumbrance nor to legal process except in an action to recover for necessities." This is generally known as the "spendthrift clause."

The guarantees about the rates of interest and mortality which are involved in provisions for optional settlements, which may be in effect many years after the death of the insured or other maturity of the policy, should clearly be on a conservative basis. Otherwise the company may incur serious losses. When optional settlements first appeared in life-insurance policies this fact was not sufficiently realized. Moreover, it was generally thought that optional settlements would be elected by only a small number of insureds and beneficiaries.

At first (in the early years of the present century) the rate of interest guaranteed was usually either 3 or  $3\frac{1}{2}$  per cent. That seemed conservative at the time, but during the 1940s most companies were not earning as high a net rate of interest on their investments as  $3\frac{1}{2}$  per cent, and some, for a few years, not even as high as 3 per cent. There was thus, in many cases, a substantial deficiency in interest earnings as compared with the optional-settlement guarantees which had to be made good from other earnings or drawn from surplus. In addition, the original guarantees in connection with the life-income option—option (3) above—were commonly based on the American Experience Mortality Table without any distinction between male and female

<sup>4</sup> Personal Property Law, sec. 15.



beneficiaries. The actual mortality experienced among beneficiaries was far lower than that assumed in these early policies so that losses have been sustained on that account under all such policies.

It was not until the 1930s that the extent of loss from both interest and mortality, as well as the greatly increased use of optional settlements, caused the companies to revise these guarantees radically. Since that time the process of revision has continued. For many years the interest assumption (guarantee) under optional settlements has been generally not over  $2\frac{1}{2}$  per cent, frequently less, while the mortality basis for life-income settlements has reflected the expected mortality among annuitants with lower income guarantees for female than for male beneficiaries.

**Administration of Policy Proceeds by a Trust Company.** In certain circumstances it may be more advantageous to make the policy proceeds payable to a trust company as trustee for the beneficiary, thus creating a *life-insurance trust*, rather than to make use of the optional settlements. The chief advantage of such an arrangement is that a trust company will permit more flexibility in the details of the settlement and may assume discretionary powers, while the life-insurance company generally will not.

The trust securities must yield a somewhat higher rate than the rate allowed by the insurance company in order to give the same result, since the trust company charges a fee while the insurance company makes no direct charge. Trust-company fees depend upon the amounts involved, being proportionately less for large than for small amounts, so that this method of settlement is more suitable when the amount involved is fairly substantial.

A much more important point than the relative yield is that, where the proceeds are left with the insurance company, the fund is merged with the entire assets of the company, so that the risk of capital loss is practically eliminated, whereas such risks are present in the case of any group of earmarked securities forming a trust. An important advantage of a trust settlement is the greater flexibility obtainable, including the possibility of exercising discretionary powers. Where this is a vital point, it may be that administration by a trust company is the only possible

choice. In view, however, of the variety of forms of settlements offered by the companies, almost all ordinary requirements can be met by use of the optional settlements.

In connection with trust-company administration of life-insurance proceeds the expression "unfunded trust" has been adopted where a trust instrument is executed in advance of the maturity of the policy by the death of the insured. In that case the trust company is named in the policy as the beneficiary, and the details of the settlement which is to take effect at the death of the insured are set forth in a separate trust deed.

The expression "funded trust" usually refers to a trust fund established for the purpose of paying life-insurance premiums and has no necessary relation to the method of settlement of the proceeds of the policies.

### MISCELLANEOUS POLICY PROVISIONS

**The Contract.** Many state laws require that the policy shall constitute the entire contract between the company and the person insured. A copy of the application for the insurance is always either endorsed upon the policy or attached to it, being incorporated by reference, and thus forms a part of the contract. It is necessary from the company's point of view that the application be included in the contract, since the company must rely upon the statements made by the applicant, which are the foundation of the contract. Most companies now attach to the policy a photostatic copy of the application. Statements made by the insured which are not contained in the application may not be used by the company in defense of a claim under the policy. Hence, it is essential that all matters having a bearing on insurability be covered in the application (or by supplements thereto, duly incorporated in the policy) and not in other papers or orally.

From the insured's point of view it is desirable that the policy constitute the entire contract, so that he may be protected against the possible effect of his ignorance of certain matters of which he might otherwise be deemed to have knowledge, such as the terms of the charter or bylaws of the company.

Some states require the policy to contain a provision that, in the absence of fraud, statements made by the insured in the application and to the medical examiner shall be deemed to be representations and not warranties. One effect of such a provision is that statements by the insured need only be *substantially*, rather than *literally*, true.<sup>5</sup>

**Rights of Beneficiary.** The policy usually now provides that if a beneficiary dies his or her interest shall revert to the insured, unless otherwise provided by a special clause endorsed on the policy. Also, it is now generally provided that the insured is entitled to all rights, benefits, options, and privileges without the consent of any beneficiary unless an irrevocable beneficiary has been named. This includes the right to change the beneficiary. The omission of such provisions in policies issued in former years frequently caused trouble and delay in payment where the beneficiary named in the policy died before the insured.

Because of the greater frequency of automobile and airplane accidents, it has become fairly common to provide that the beneficiary's interest does not vest in case of his death within a specified time after the insured's death or until receipt of proof of his death subsequent to that of the insured or, in at least one company, until payment has been made. This is often referred to as the "common-disaster" provision.

**Loans.** The policy provides that the company will grant, at a specified rate of interest, such loan on the security of the policy as can be secured by the cash-surrender value. Most contracts issued, since 1934 provide that the granting of a loan may be delayed, at the company's option, for a period of 6 (or, in some cases, 3) months, and many companies previously had such a provision.<sup>6</sup>

State laws require a *specified* rate of interest, which is thus fixed and guaranteed for the entire duration of the contract irrespective of fluctuations in interest rates elsewhere. The usual rate specified in contracts issued for many years prior to 1939 was 6 per cent, but because of a change in the New York law there was a general change by most of the principal companies to 5 per cent payable

<sup>5</sup> This rule is considered at greater length on p. 487.

<sup>6</sup> See p. 186.

at the end of the loan year for contracts issued after 1938. In view of the small average amount of policy loans and the consequently high rate of expense, as well as for other reasons, 6 per cent was not an excessive rate. In the case of very small loans, such as those made to pay premiums, expenses may consume the entire amount paid for interest. There has been a good deal of misunderstanding on this question, and it is not usually realized that no other lender can or would make loans in the amounts and on the terms guaranteed in life-insurance policies. It is generally considered impracticable for the company to vary the rate according to amount of loan, as any other lender would do, although at least one company does so. The enforcement by law of an unduly low rate would be unfair to the whole body of policyholders, the great majority of whom do not borrow on their policies, and would operate to increase the cost of insurance to everyone.

Policy loans are likely to lead to lapse and thus to defeat the purpose of the insurance. They are, in a sense, a necessary evil of the level-premium plan of insurance. The asset (cash value) is there; and if the company would not lend, a loan could be made elsewhere or the policy could be surrendered outright. No necessity of repayment exists, and a large proportion of such loans are repaid only upon the termination of the contract. In spite of the apparently high interest rate and the absence of risk, most companies discourage policy loans.<sup>7</sup>

**Dividends.** Participating policies issued in the United States now invariably contain a provision that dividends shall be allotted annually. For many years prior to 1907 nearly all the policies of some of the larger companies provided for participation in surplus earnings only in the event of survival to the end of a specified period of years, usually 5, 10, 15, or 20. These deferred-dividend policies are no longer issued and are now illegal in practically all states.<sup>8</sup>

**Assignments.** Life-insurance policies, being personal property, are freely assignable and are frequently assigned. If the company

<sup>7</sup> Policy loans are further discussed in Chap. 11.

<sup>8</sup> See Chap. 7 for a full discussion of dividends and policy provisions in regard to dividends.

has notice of an assignment, it is responsible for making payments under the policy only to the persons entitled to receive them. In order to simplify payments in such cases the company may insert a statement in the policy that notice of any assignment must be accompanied by the original assignment or by a certified copy thereof. Such a provision has no effect on the rights of an assignee. Where a sufficient legal notice has been given, the company may not ignore an assignment, although no copy of the assignment has been filed. The policy usually also states that the company assumes no responsibility for the validity of assignments, but such a statement is unnecessary. The company is bound to accept such notice of assignments as is given to it but is in no wise bound to examine assignments or to give any opinion about their legal effect until the time for payment comes. At that time the company must examine all claims under the policy and must then determine to whom the policy is legally payable.

**Powers of Agents.** An important provision is that which notifies the policyholder what persons are empowered to modify the terms of the contract or to waive any of its requirements. The persons who have such power are generally known as "executive" officers. The executive officers usually include the president, vice-president, and secretary.

The importance of this clause lies in the notification which it conveys of the limits of the powers of soliciting agents, medical examiners, cashiers, clerks, and other subordinate representatives of the company. It may happen, for example, that an agent of a life-insurance company takes it upon himself to authorize an extension of the time for paying a premium or to waive a lapse by accepting an overdue premium. Such action is usually beyond his powers and may be repudiated by the company in view of the notification contained in the policy.

#### STANDARD POLICY PROVISIONS

The following are the *standard policy provisions* which must be contained at present in life policies issued by companies incorporated in the state of New York. These are the provisions required in ordinary (i.e., not group or industrial) policies. The

law does not require any specified wording, but the wording adopted must be approved by the superintendent of insurance. These provisions are similar to the requirements of the laws of many other states. The company may adopt more liberal provisions.

#### STANDARD PROVISIONS—NEW YORK INSURANCE LAW

1. A provision that the insured is entitled to a grace period either of thirty days or of one month within which the payment of any premium after the first may be made, during which period of grace the policy shall continue in full force, but if a claim arises under the policy during such period of grace before the overdue premiums or the deferred premiums of the current policy year, if any, are paid, the amount of such premiums, together with interest, not in excess of six per centum per annum, on any overdue premium, may be deducted from any amount payable under the policy in settlement.

2. A provision that the policy shall be incontestable after it has been in force during the lifetime of the insured for a period of two years from its date of issue, except for non-payment of premiums and except for violation of the conditions of the policy relating to military or naval service; and at the option of the insurer, provisions relating to benefits in the event of total and permanent disability, and provisions which grant additional insurance specifically against death by accident or accidental means, may also be excepted.

3. A provision that the policy shall constitute the entire contract between the parties, or, if a copy of the application is endorsed upon or attached to the policy when issued, a provision that the policy and the application therefor shall constitute the entire contract between the parties.

4. A provision that if the age of the person insured has been misstated, any amount payable or benefit accruing under the policy shall be such as the premium would have purchased at the correct age.

5. A provision that the insurer shall annually ascertain and apportion any divisible surplus accruing on the policy.

6. A provision specifying the cash surrender values and nonforfeiture options available under the policy in the event of default in a premium payment after premiums have been paid for a specified period together with a table showing, in figures, the options so available, and also the loan values, if any, available during each of the first twenty

years after the issuance of the policy. Such options shall include a cash surrender value, and shall conform with the requirements of subsection one of section two hundred eight or two hundred eight-a.

7. A provision that after three full years' premiums have been paid, the insurer issuing the same will, at any time while the policy is in force, advance on proper assignment or pledge of the policy and on the sole security thereof, at a specified rate of interest, not exceeding four and eight-tenths per centum per annum if payable in advance or the equivalent effective rate of interest if otherwise payable, a sum equal to, or at the option of the person entitled thereto less than the amount required by section two hundred eight-b under the conditions specified thereby; and that the company may deduct from such loan value (in addition to the indebtedness deducted in determining such value) any unpaid balance of the premium for the current policy year; and that if the loan is made or repaid on a date other than the anniversary of the policy, the insurer may collect interest for the portion of the current policy year on a pro rata basis at the rate of interest specified in the policy. The policy may further provide that if the interest on the loan is not paid when due, it shall be added to the existing loan, and shall bear interest at the same rate; and may further provide that if and when the total indebtedness on the policy, including interest due or accrued, equals or exceeds the amount of the loan value thereof at such time, and if at least thirty days' prior notice shall have been given in the manner provided in section one hundred fifty-one, then the policy shall terminate and become void. The policy shall also contain a table showing the loan values, if any, available during each of the first twenty years after the issuance of the policy. This provision shall not apply to term insurance.

8. In case the proceeds of the policy are payable in instalments or as an annuity, a table showing the amounts of the instalments or annuity payments.

9. A provision that the policy will be reinstated at any time within three years from the date of default, unless the cash surrender value has been exhausted by payment or unless the period of extended insurance has expired, upon the application of the insured and the production of evidence of insurability, including good health, satisfactory to the insurer and the payment of all overdue premiums and the payment or reinstatement of any other indebtedness to the insurer upon said policy with interest at a rate not exceeding six per centum per annum compounded annually.

The law provides that any of the foregoing provisions not applicable to single-premium, nonparticipating, or term policies shall, to that extent, not apply.

The New York law also requires that no policy shall contain any provision which excludes or restricts liability for death caused in a certain manner or occurring while the insured has a specified status, except the following provisions or provisions which in the opinion of the superintendent are substantially the same or more favorable to policyholders:

*Provisions excluding or restricting coverage in the event of death occurring*

(1) Inside the forty-eight states of the United States, the District of Columbia or the Dominion of Canada as a result of service in (a) the military, naval or air forces of any country at war, declared or undeclared, or (b) any ambulance, medical, hospital or civilian non-combatant unit serving with such forces, either while serving with, or within six months after the termination of service in, such forces or units.

(2) Outside such states, district, and dominion while in such forces or units.

(3) Within five years from the date of issue of the policy, as a result of war, declared or undeclared, when the cause of death occurs while the insured is outside the forty-eight states of the United States and the District of Columbia, and the Dominion of Canada, and the insured dies either outside such states, and district and dominion, or within six months after returning thereto.

(4) As a result of suicide within two years from the date of issue of the policy.

(5) As a result of aviation under conditions specified in the policy.

(6) Within two years from date of issue of the policy as a result of a specified hazardous occupation or occupations, or while the insured is resident in a specified foreign country or countries.

In the event of death about which there is an exclusion or restriction pursuant to (1), (3), (4), (5), or (6) above, the company shall pay an amount not less than the reserve for the policy and for any dividends standing to the credit of the policy, less any indebtedness.

In the event of death about which there is an exclusion or re-



striction pursuant to (2) above, the company shall pay the greater of (a) the reserve less indebtedness or (b) the premiums charged less dividends paid or used in the payment of premiums and less any indebtedness.

The foregoing limitations on restricted coverage do not apply to any provision in a life-insurance policy for additional benefits in the event of death by accident or by accidental means (double indemnity).

### CANADA

the Dominion Insurance Act required standard policy provisions. Because of decisions in regard to Dominion jurisdiction (as explained in Chapter 19) the terms of policy contracts of domestic companies since that time have been governed by the laws of the several provinces, but the extent of regulation has not been as great as in the United States. All provinces except Quebec have enacted in substance the provisions of the Uniform Life Insurance Act, which became effective in 1925.<sup>9</sup> This act does not require the policy to contain specific standard provisions as in the United States, but the matters usually covered by such standard provisions (as well as many other matters which, in the United States, are determined by the general statute law rather than by a special insurance law) are provided for in the law itself. Formal approval of policy forms is not required.

The uniform law provides, *inter alia*, (1) that no term or condition of a contract of insurance which is not set out in full in the policy or in a document or documents in writing attached to it, when issued, shall be valid or admissible in evidence to the prejudice of the insured or a beneficiary; (2) that any conscious failure to disclose, or any misrepresentation of, a fact material to the contract, on the part of the insured or of the person whose life is insured, shall render the contract voidable at the instance of the insurer; (3) that the statements made by the insured or the person whose life is insured in the application and on the medical examination, except fraudulent statements or erroneous statements

<sup>9</sup> See p. 456.

about age, shall be deemed to be true and incontestable after the contract has been in force for 2 years during the lifetime of the person whose life is insured; (4) that where the age of the person whose life is insured is understated in the application, the insurance money shall be reduced to the amount which would have been payable in respect to the premium stated in the policy at the correct age, according to the tables of rates of premium of the insurer in force at the time of issue of the policy, and that in event of overstatement of age, if the policy does not provide for a corresponding increase of the amount of insurance, the excess premiums are returned; (5) that 30 days' grace shall be allowed for payment of premiums; and (6) that the policy may be reinstated within 2 years from lapse on evidence of good health and insurability and that in event of reinstatement the period of contestability and the period specified in the suicide clause (if any) run from the date of reinstatement. Certain provisions defining the rights of beneficiaries are also required.

The following important differences between the provisions of the Uniform Life Insurance Act of Canada and the standard provisions in the United States should be noted: (1) the Uniform Life Insurance Act does not require annual distribution of surplus under participating policies; (2) it does not require a suicide clause; (3) it permits a contest of the policy on the ground of fraud irrespective of the time the policy has been in force; (4) it contains no requirements in regard to nonforfeiture, loan, or surrender benefits.

Policies issued by Canadian companies in the United States must comply with the laws of the states in which they are issued. Most Canadian companies do business in the United States, and the terms of their policies are, in fact, very similar in all important respects to those of policies issued by United States companies.

### REVIEW QUESTIONS

1. State two ways in which the terms of life-insurance policies are regulated in the United States.
2. State some of the respects in which policies now issued are more liberal than those issued in the first half of the nineteenth century.

3. What is meant by "fractional premiums"? What is the usual practice in regard to unpaid fractional premiums at the time the policy becomes payable?

4. State and describe the three usual types of nonforfeiture benefits.

5. In the case of extended term insurance, why is any policy loan deducted in determining the amount of insurance and also deducted from the cash value used to purchase the extended insurance? What is the effect on the period of term insurance? Why?

6. What are the advantages and disadvantages of a provision for an automatic premium loan in the event of nonpayment of the premium?

7. What are the usual terms of the incontestable clause? Why is such a clause required?

8. What are the usual policy provisions about suicide? Would it be desirable to eliminate coverage entirely in the event of suicide? Why?

9. Why is some limitation on the company's liability for war deaths necessary in time of war but not in policies issued in time of peace? What are the two different types of war clauses which have been generally used?

10. Comment briefly on the use of exclusion clauses in cases where there is an unusual aviation hazard.

11. What are the optional modes of settlement contained in most policies now being issued? Describe each option briefly.

12. It is sometimes said that a rate of interest such as 5 or 6 per cent for policy loans is excessive. Is such an apparently high rate proper and necessary? Why?

13. Contrast the regulation of the terms of the policy in Canada with that in the United States.

14. State some of the more important differences between the requirements of the standard provisions under state laws in the United States and the requirements of Canadian laws with regard to policies issued in Canada.

## Selection of Risks

An application for insurance may be (1) accepted at the regular, or *standard rates*, (2) accepted on special terms as a *substandard* risk, or (3) declined. The company's action is usually based upon (1) the statements made by the applicant in the application and to the medical examiner, (2) the report of the medical examiner, and (3) an independent *inspection* of the risk. However, a considerable proportion of all the insurance issued for smaller amounts is now issued without a medical examination.<sup>1</sup>

Most companies instruct their agents to solicit only those persons who are believed to be eligible for insurance. The agent's reliability in this respect is very important, as in most cases he is the only person connected with the company who has personal knowledge of the applicant. Where eligibility for insurance is in any way doubtful, some companies, in order to save unnecessary expense and trouble, require the agent to submit a preliminary statement setting forth the facts of the case and the grounds upon which doubt about insurability is based. Some companies require such a statement in all cases where an application has formerly been declined, postponed, or accepted at other than standard rates.

If the agent believes that the prospective applicant is an insurable risk, he obtains from him a written application for insurance. This written application is an offer to the company, the acceptance of which by the company, followed by compliance with any necessary subsequent condition (such as the delivery of the policy and payment of the first premium during the continued good health of the applicant), is the basis of the formal contract of insurance.

<sup>1</sup> See pp. 237-240.

The questions in the application are of great importance and should cover everything within the knowledge of the applicant which has a bearing on insurability. In most states the law provides that the policy constitutes the entire contract between the company and the insured. If the company wishes to make the application a part of the contract, it may do so, provided that a copy of the application is attached to the policy when issued and incorporated in the policy by reference. This is always done. Information not asked for need not be volunteered by the applicant unless of such a nature that its concealment would amount to bad faith. Information on certain points such as habits and finances is better obtained from independent sources than by direct questioning of the applicant, and such matters are therefore not usually completely covered in the application.

**The Application.** *General Questions.* The application is generally divided into two parts. The first of these covers nonmedical information; the second consists of answers to questions put by the medical examiner.

The statements made by the applicant in the first part of the application cover the particulars necessary to identify him, such as his name, place of present and any former residence, and place and date of birth. Former residences are required in connection with the inspection of the risk, particularly if there has been a recent change of residence.

The statement of the applicant about his age (date of birth) is generally accepted without proof. In fact, it is not usual to call for proof of age at any time unless some reason exists to doubt the correctness of the applicant's statement. This may occur at the time the policy becomes payable, in which case evidence of the correct date of birth will be required before any payment is made. Many applicants have no means of proving their ages, and there are, undoubtedly, many misstatements of age (intentional and unintentional) that are never detected.

Further questions in the first part of the application cover the applicant's occupation and the nature of his specific duties, as well as any change of occupation. The applicant is also required to give particulars of any aviation activities other than passenger

flying on regularly scheduled airlines; if there is any unusual aviation hazard a supplementary form giving details is generally required. The possibility of foreign residence is covered by another question.

The application also contains information about the insurance history of the applicant. This includes details of all insurance that is already in force on his life, whether in the same or in other companies, and information about whether any company has ever declined to issue a policy on his life or has offered special terms for doing so and whether any other negotiations for insurance are pending or contemplated. The amount of insurance in force and applied for is an important element in the selection of risks since overinsurance is definitely an extra hazard.

The foregoing information, together with a statement of the amount of insurance applied for, the plan upon which it is to be issued, the name of the beneficiary or person to whom the insurance is to be paid, and the respective rights of the insured and beneficiary in regard to control of the policy complete the first part of the application. This may be supplemented by an agreement that no persons other than certain specified executive officers of the company have power to alter any of the terms of the policy, if issued. The signature of the applicant is generally witnessed by the agent, who vouches for him from his personal knowledge.

**Statements to the Medical Examiner.** The statements made by the applicant to the medical examiner constitute the second part of the application.

Statements made by the applicant in answer to questions by the medical examiner cover (1) history of illnesses, diseases, injuries, etc., and information about physicians consulted, (2) family history, and (3) physical condition so far as it is known to the applicant himself. There are also questions covering possible change of occupation or residence for health reasons and the habits of the applicant with regard to alcohol and drugs.

The applicant's personal-health history is of great importance. It is not necessary that details be given of every trivial complaint, but everything that is not so regarded and everything, whether trivial or not, that is recent must be stated, with the names of any

physicians consulted. This is necessary in order that the company, if it desires to do so, may refer to any such physician for fuller details that may not be known to the applicant and that may have a bearing on his insurability. Sometimes consideration of the application may have to be postponed because of recent illness until a longer period has elapsed without recurrence. It is not usual to consider an application for insurance in any case where the applicant is under treatment for or in process of recovery from any illness.

Inquiry about the medical history of the applicant is essential. Impairments may exist that would not be discovered by the ordinary medical examination for insurance. Information regarding previous illnesses, operations, etc., frequently indicate the necessity for special additional tests or examinations, or for further investigation.

The applicant is required to furnish information about his family history covering his parents and his brothers and sisters. This information requires the ages and state of health of these persons if living and their ages at death and causes of death if not. There is usually, in addition, a specific question regarding tuberculosis or insanity in the family. Family history gives a fairly good indication whether a family is short- or long-lived. The death of parents at ages under sixty is an unfavorable indication. In addition, the causes of death may be important. Tuberculosis in parents or in any member of the family has a definite bearing upon the applicant's insurability, particularly if the latter is young or underweight. A high incidence of cardiac or similar deaths in the family history is also unfavorable, and the same is true of a family history of diabetes or cancer. The importance of any such record must be considered by the medical examiner in view of all the factors involved.

While the statements to the medical examiner include a question about habits in the use of alcohol or drugs, it is the practice to rely chiefly upon other sources for this information, particularly the inspection report. The answers to questions on residence and occupation may give significant information about the health condition of the applicant.

**The Medical Examiner's Report.** The medical examiner's report includes chiefly a report on a physical examination of the applicant. The report contains details which identify the applicant in order to guard against fraudulent substitution, for the purpose of passing the medical examination, of a healthy person for an unhealthy applicant. The general identification questions also permit the examiner to comment upon the general appearance of the applicant.

**Build.** The applicant's *build*, i.e., his height, weight, and other measurements, is a very important factor in selection. There are reliable statistics available to show the effect upon mortality of deviations from the average build, both overweight and underweight.

Table 9-1 illustrates the average height and weight by age and sex according to current life-insurance standards. Deviations from the average weight may be favorable or unfavorable. In general, overweight in a slight degree is a favorable factor at the younger ages, but a definitely unfavorable one at the older ages. Young underweights are not as good risks as the average, but at the older ages the best mortality is experienced among those who are somewhat below the average in weight. In other words, the *average* weight is not necessarily the *best* weight, i.e., the weight which, on the average, will show the lowest mortality rate. The measurements of an overweight applicant and the distribution of the excess weight are important.

**Heart, Lungs, etc.** Next in importance to the build is the condition of the heart and the circulatory system. The examiner will report any unusual heart findings such as murmur (heart sounds) or enlargement. The examiner will also check the blood pressure and the pulse rate.

The blood pressure has proved to be of increasing importance in the selection of risks since there is good statistical evidence to indicate that higher than normal readings are indicative of a higher than normal mortality. Low blood pressure, on the other hand, can frequently be disregarded. It is frequently associated with underweight and may be simply a characteristic of such cases rather than a definite impairment.



TABLE 9-1. AVERAGE WEIGHT (POUNDS)

Age	Height							
	5 ft., 0 in.	5 ft., 2 in.	5 ft., 4 in.	5 ft., 6 in.	5 ft., 8 in.	5 ft., 10 in.	6 ft., 0 in.	6 ft., 2 in.
	Men							
15	107	112	118	126	134	142	152	162
20	117	122	128	136	144	152	161	171
25	122	126	133	141	149	157	167	179
30	126	130	136	144	152	161	172	184
35	128	132	138	146	155	165	176	189
40	131	135	141	149	158	168	180	193
45	135	137	143	151	160	170	182	195
50	134	138	144	152	161	171	183	197
55 or more	135	139	145	153	163	173	184	198
	Women							
15	107	112	118	126	134	142	152	
20	114	119	125	132	140	147	156	
25	117	121	128	135	143	151	158	
30	120	124	131	138	146	154	161	
35	123	127	134	142	150	157	163	
40	127	132	138	146	154	161	167	
45	130	135	141	149	157	164	171	
50	133	138	144	152	161	169	176	
55 or more	133	138	144	153	163	171	177	

SOURCE: Figures taken from a complete table in *Medical Impairment Study*, published in 1929 by the Actuarial Society of America and the Association of Life Insurance Medical Directors. There has been no material change in average weights by height and age since that time.

Where doubt exists or where the amount of insurance applied for is large, the foregoing tests may be supplemented by X ray or electrocardiogram. The X ray, for example, can definitely establish an enlargement of the heart, and the electrocardiogram may verify a suspected heart condition which is not definitely established by the physical examination. These aids to selection are frequently

of help in clearing up doubtful cases and may enable the company to accept a risk that it might otherwise decline.

Examination of the urine is required in all medically examined cases in order to detect kidney disease or diabetes.

In addition to these tests the examiner will carefully check the other organs of the body for evidence of disease or functional disturbance, paying particular attention to any factor or condition that might be related to any previous impairment revealed by the applicant's medical history.

Mention has been made of such aids to diagnosis as the X ray and the electrocardiogram. It is sometimes objected that the application of such tests results in an unnecessarily high standard of selection. Such tests are imposed in order to obtain a more accurate appraisal of the risk. They may result in a declination, but they also frequently enable the company to grant insurance in cases which would be uninsurable on the information furnished in a regular examination. However, these tests cannot be employed in all instances where the company is in doubt, because they are expensive; to require them in connection with small amounts of insurance would be uneconomical. The companies, therefore, generally restrict such tests to the larger amounts.

A company writing substandard business<sup>2</sup>—as most companies do—must go further in differentiating between the various degrees of impairment if the substandard rating is to be reasonably accurate. This may require more supplementary tests than for standard insurance.

**Occupation.** The occupation of the applicant is important in the selection of risks. Many occupations involve an extra hazard, and in such instances an extra premium may be necessary. The extra death rate in an occupation may arise from greater than normal accident hazard, from work conditions affecting health, or from both of these factors. For example, the extra death rate of railroad workers is due almost entirely to accidents. The "dusty trades," such as stonecutting, furnish a good example of a health hazard. Others are the chemical industries and occupations involving exposure to extremes of heat and humidity. The nature of

<sup>2</sup> See Chap. 10.

the occupation may also introduce a social-class hazard since the poorer-grade workers will normally drift into the poorer-paid and less healthful occupations. The insurance company is interested not only in the current occupation of the applicant but also in any previous occupation since there may be a return to the former occupation and since the applicant may have changed from a hazardous to a nonhazardous occupation for health reasons. If the applicant has been in his present occupation for 2 years, this is usually accepted as the basis for rating the case.

**Aviation.** It is important that the application bring out whether there is or may be any special or unusual hazard from aviation. Passenger travel on any of the regularly scheduled airlines (now including long-distance, transoceanic flights) is not considered to involve sufficient extra hazard to require payment of an extra premium or any restriction on the company's liability. The increased safety of regular passenger flights has reduced the cost of aviation fatalities on the regular lines to an insignificant amount (only a few cents per \$1,000 of insurance), and since use of the regular airlines is becoming more and more general there is no reason to regard such flying as a special risk requiring special treatment or payment of an extra premium. The same is now largely true in regard to owners of private planes and others who travel in private or company-owned planes. While the company's action in such cases depends on the particular circumstances of the case, many applicants in these categories are now acceptable for insurance without extra premium.

The situation is different for applicants subject to other types of aviation hazard. These include pilots and crew members of passenger planes and members of the military or naval aviation services as well as some employees of airplane manufacturers. If such risks are to be granted insurance on safe and equitable terms, it is important that the companies have a satisfactory statistical basis for measuring the extra risk. Such statistics are compiled by the Aviation Committee of the Society of Actuaries and enable the companies to determine suitable rates of extra premiums for various classes in which there is a substantial aviation hazard.

Where the extra premium required for an aviation risk is high,

the applicant may be offered a policy with an *exclusion clause* under which the company is liable only for return of premiums with interest in event of death as a result of aviation. Exclusion clauses, while not used as often as formerly, are still used to some extent, chiefly in connection with the more hazardous risks. They are also sometimes used where, although no extra hazard exists at the date of application, the circumstances indicate a likelihood of its arising later. In general, however, the companies do not favor the use of exclusion clauses, and some companies do not use them at all.

It is customary to restrict the amounts of insurance in any or all of the classes subject to special aviation hazards, depending upon the degree of extra hazard. Where there is any indication of an aviation hazard other than passenger flying on scheduled airlines, the applicant is usually required to complete a supplementary aviation blank which will give the company full details about past and probable future aviation activities as well as about his current flying status.

**Residence.** If the applicant is likely to be residing in a foreign country where the climate is unhealthful, or where some other form of extra hazard may exist, the company may charge an extra premium to cover this additional hazard if it agrees to assume the risk.

Generally speaking, policies are not issued by United States companies to applicants whose permanent residence is in a foreign country but are issued freely to United States citizens who are temporarily residing abroad. Unless a company has an organization and representatives in another country it may not be able to get full information about applicants for insurance, and practical difficulties may arise in connection with the settlement of claims. Most United States companies confine their business to the United States (and its territories) and Canada. Some Canadian companies do business in foreign countries, using special premium rates for tropical or semitropical countries where the mortality rates are higher.

**General.** The general practice of life-insurance companies is to issue policies free from all restrictions regarding travel, residence, and occupation wherever possible. It is therefore necessary for

the companies to obtain information about any extra hazards which the applicant is likely to incur, whether from occupation, aviation, or residence. In other words, the company can grant a policy free of restrictions at standard rates only if it is satisfied that there is no unusual hazard attaching to the applicant.

**The Inspection.** In addition to the applicant's physical condition and related factors, the company must also consider the financial and "moral" aspects of the case. Information on these points is furnished by the inspection. There has been a tendency to eliminate the inspection in the case of small policies, offsetting any resulting extra mortality against the saving in expense. In almost all cases where the amount of insurance is not large, the inspection, where one is made, consists of a short report by a local correspondent employed either by the insurance company or by some commercial or credit agency. Such a report gives information of a general nature on the health, habits, finances, environment, and reputation of the applicant. When the application is for a large amount, it is usual to obtain a more detailed and comprehensive report.

**Finances.** The question whether the applicant's finances are such as to warrant the amount of insurance applied for is important and must be considered in every case, large or small. As a rule, no question will arise when the total insurance involved is not more than a few thousand dollars, unless the applicant already has insurance which, with that applied for, would appear to be more than he can afford to carry. In such cases further inquiry would be made to verify the facts before a policy was issued. The question of financial ability to pay for the insurance applied for is more likely to arise in connection with applications for large amounts of insurance. It is an established fact that overinsurance is an additional hazard, and the company should not issue more insurance than is justified by the financial circumstances of the applicant. The information procured in regard to finances generally includes approximate amount of income, sources of income, probability of increase or decrease in earning power, other resources in property, real or personal, record of bank accounts, previous bankruptcies, reputation regarding payment of debts, and

other miscellaneous matters. A report on the applicant's general business reputation and character is a necessary part of this element of selection.

The fact that overinsurance is itself an impairment has required the underwriter to disregard the formerly accepted theory that an applicant was entitled to as much insurance as he wanted to pay for. There should be a reasonable relationship between income and the total amount of insurance. Although it is difficult to determine a standard of reasonableness, the *20 per cent rule* has been used as a measuring rod. This rule sets the limit of insurance as that amount which can be purchased on the ordinary-life plan with 20 per cent of the applicant's income. This gives effect to the age of the applicant and avoids the possibility of loading up on a low-cost plan such as term insurance for the same amount of premium. The rule is merely a guide; while it can be applied flexibly in the case of small amounts of insurance, it probably should be strictly applied where very large amounts are involved, an even smaller percentage of the applicant's income sometimes being used. The high tax rate on incomes suggests further caution in underwriting large amounts.

While selection on the basis of finances is usually considered by itself, accompanying circumstances frequently link it with other branches of selection. An example is found in risks that, while passable for insurance, belong to the doubtful, or borderline, group from a medical standpoint. Overinsurance on such a group must be viewed with more suspicion than if there had been no medical impairment. The same is true of selection from the standpoint of moral hazard, environment, habits, and occupation.

Creditor insurance affords an example of the special considerations which arise where financial standing is an element in the case. A creditor is entitled to protection against the death of the debtor before the debt is paid and is, in consequence, a legitimate beneficiary. This is so, however, only if the debt is a live business obligation. When the debtor has little or no chance of paying off the loan, the insurance becomes speculative.

*Moral Hazard and Environment.* Under the heading of moral hazard and environment the inspection report deals chiefly with

the habits of the applicant and with his surroundings, mode of life, and general reputation. Such factors may have only an indefinite or indeterminate relationship to insurability. However, the company naturally endeavors to limit its policyholders to those who conform to the normal standards of behavior within reasonable limits. Habits in the use of alcoholic beverages are, of course, one of the most important elements in this aspect of selection.

In addition to details of finances and moral hazard, the inspection report furnishes a check on the company's information in regard to the applicant's health. This information should be completely available from the application papers; but often, because of forgetfulness and sometimes from deliberate intention to conceal unfavorable facts, this is not the case. For this reason alone the inspection is an essential feature of selection, at least where a substantial amount of insurance is involved.

**Insurance at Extremes of Age.** Most applicants for insurance are persons between the ages of twenty and sixty. At very low ages there is, naturally, not so much need or demand for life insurance. Persons not of legal age are not competent parties to a life-insurance contract unless they are made so by special statutory enactments, as in the state of New York, where a valid insurance contract may be made with a person fifteen years of age. This is a modification of the law of contract based on the general desirability of enabling such persons to make a legally valid contract for life insurance. In point of fact, many companies now issue ordinary policies on the application of persons as young as ten or even five years of age. Such policies are not illegal even in those states where the law specifically states that insurance contracts may be made with persons not less than some higher age. They are merely *unenforceable* by the company and may be repudiated by the insured who, technically, could claim a refund of all the premiums he had paid, after having been insured for some years, on the ground that he was legally incapable of making a contract. This small technical objection to the issuance of such policies is offset by the advantage which they offer in the opportunity to establish insurance early in life when health is good and the rate of premium low. It must be noted that these policies on the lives

of children are issued on the application of the insured child and not to the parent or other person who will pay the premium. This is necessary since the law in some states prohibits insurance, except as stated below, without the consent of the person whose life is insured. The parent (or other applicant) usually joins in signing the application or, at very young ages, signs on behalf of the insured.

Another type of insurance, *juvenile insurance*, is issued under the terms of laws permitting the insurance of minors for specified amounts. Such policies may usually be issued at any age from birth upward and do not require the consent of the insured child, being issued on the application of the parent or other person with insurable interest. Many state laws permit such insurance with a graded limitation of amount up to a stated age such as five or ten, and most companies issue policies permitted by these laws under which the amount of insurance is on a graded scale as age increases, reaching an ultimate maximum in accordance with the provisions of the law. It is under such laws, also, that industrial policies on the lives of young children are issued.<sup>8</sup>

There has been considerable expansion in juvenile insurance, and fairly large amounts of insurance are now issued by many companies on juvenile lives. The usual selection procedure is greatly simplified in the case of juvenile lives, and most of the business is done on a nonmedical basis, i.e., without medical examination, even at the lowest ages. Only where the amount of insurance applied for is large is medical examination required. It is customary to require that the insurance carried on the life of the applicant (parent) have some relation to the insurance on the child. For example, it might be required that the applicant have twice as much insurance as is being applied for on the life of the child. This particular relationship is written into the New York law with respect to insurance on children between the ages of ten and fourteen. Such a requirement is probably based on the idea that it is more important that the parent have adequate insurance. The rule is, however, arbitrary and in most cases unnecessary.

At advanced ages, i.e., above sixty, the need for insurance has,

<sup>8</sup> Industrial insurance is discussed in Chap. 15.



in many cases, ceased, while the higher cost, the larger proportion of persons who are ineligible on account of physical defects, and the fact that many are already fully insured result in a comparatively small total of insurance applied for.

The fact that only a relatively small number of applicants are obtained from those at very high or very low ages is sometimes given as a reason why it is necessary to select such cases as are offered with rather more than customary care. These small groups will probably not yield average results on which the same degree of dependence may be placed as in the case of applicants at ages where the volume of business is considerable. Whether it is essential, or at least desirable, that average results are secured at *every* age of issue is, however, open to question. To some extent, there is bound to be selection against the company among such applicants as a class.

At early ages there will only infrequently be justification for insurance of large amount, while at advanced ages, although financial circumstances might warrant the issuance of a large amount of insurance, the infrequency of large policies and the consequent absence of a broad enough basis to secure average results are usually regarded as good reasons for limiting the amount of insurance granted. It is customary, therefore, both at very low and at very high ages, to limit the insurance that will be issued on any individual to a smaller amount than would be granted at intervening ages in similar financial circumstances. Usually a progressive scale is adopted, commencing with a small amount at the lowest age at which insurance is issued and graded to the company's full limit for a single life as a maximum. At the other end of the scale the limit is reduced from about age fifty-five or sixty in the same manner, the extreme age at which insurance is issued being usually sixty-five or, in some companies, seventy. The following table is a typical schedule of maximum amounts of insurance according to age at issue in a company which issues up to \$100,000 on a single life at its own risk. This table, however, is merely a general guide. The limits as stated at the lower and higher ages would usually be subject to exceptions in suitable cases.

<i>Age at issue</i>	<i>Maximum amount of insurance</i>
Below 15	\$ 5,000
15 to 17	10,000
18 to 20	25,000
21 to 22	50,000
23 to 24	75,000
25 to 55	100,000
56 to 60	75,000
61	50,000
62	40,000
63	30,000
64	20,000
65	10,000

A reason often given for the limitation of insurance on lives at the higher ages is that the mortality experience at advanced ages is not so favorable as at low ages. In other words, the ratio of actual to "expected" mortality (according to the mortality table upon which the premiums are based) is generally higher at the higher than at the lower ages. However, this does not appear to be a valid reason for limiting the amount. From what has been said in previous chapters it will be remembered that the improvement in vitality noted progressively in the past is principally found at low ages and has, in fact, consisted largely of a postponement of deaths from low to more advanced ages, thus reducing the rate of mortality among the young and lengthening the average duration of life. The fact that the experience of an insurance company or of many insurance companies shows that in regard to its younger policyholders a considerable saving in claims is made, while less saving is made among older lives, is no reason for supposing that the latter class is not so eligible for insurance. If the premium charged is adequate and if a substantial volume of business is obtained at every age at which insurance is issued, the maximum amount to be insured on a single life could be the same at all ages except for the practical reasons referred to above. If the mortality experience is less favorable, this should be reflected in the dividend scale of a mutual company or in the nonparticipating premium rate of a stock company.

One phase of insurance at higher ages that the underwriter must continually watch is that of speculation. The insurance of aged dependent persons in favor of those upon whom they are dependent is far more common than might be supposed. In order to escape undue loss, the company must be satisfied that there is a legitimate reason for insurance of the amount applied for. Questions also arise occasionally at low ages, but in such cases the avoidance of overinsurance usually solves the problem. When an attempt is made to overinsure either the old or the young, the insurance should not be reduced in amount but declined outright.

**Insurance of Women.** The fact that women are, in general, subject to a lower mortality rate and, on the average, live longer than men, would suggest that premium rates for women should be lower than for men.

In the early days of life insurance very few women were insured. This was largely due to their economic status and the fact that it was unusual for women to be engaged in business or in the professions so that there was usually no "insurable interest" which would justify or require the effecting of life insurance. In fact, in these early days it was customary to charge an extra premium in the case of a woman because of the extra hazards of childbirth—more serious then than now. The economic status of women has, of course, radically changed, and the proportion of women who are now employed, are engaged in business or the professions, or have financial interests and responsibilities is substantial. There is, therefore, a much greater need and demand than formerly for life insurance for women. A factor in this increased demand is the large and increasing number of women who are engaged in the business of selling insurance and who naturally get much of their business from women. The result of these changes is that in many companies the proportion of insurance issued on the lives of women may be as much as 10 or 20 per cent of the total.

In spite of the increased importance of women as applicants for life insurance and the fact that they are subject to lower mortality rates than men, the general practice of charging the same premium rates has continued, although in one or two instances

special policies have been issued to women at lower premium rates. The general practice is justified largely on the ground of expense. The average amount of policies issued to women is lower than that of policies issued to men and even lower than the combined average. The rate of expense per \$1,000 of insurance is therefore higher for women than for men, and this is an offset against the lower mortality rate. Moreover, to establish a different set of premium rates for women (which would also involve a separate scale of dividends) would in itself add materially to the expense of administering the business and might not be justified for a minority group. However, it is not improbable that, in the future, it will become the general practice to recognize the lower mortality of women by charging lower premiums.

Where large amounts are involved it is sometimes the practice to fix a lower maximum limit for insurance on the lives of women. However, comparatively few such applications are received, and where every element is favorable there seems little necessity for limiting the insurance to an amount less than would be issued on a man.

Most of the insurance issued on women is on those who are single and who are self-supporting or employed. The insurance of unemployed married women may involve a "speculative" hazard, particularly where the amount applied for is large. Usually there is no clear justification for a large amount of insurance. Many companies limit the amount of insurance on a dependent married woman to some proportion of the insurance carried by the husband on his own life. All companies underwrite this business strictly. As in other types of risk, however, much depends on the circumstances of the particular case. Where all factors are favorable, most companies will issue as large an amount of insurance on a woman as on a man.

**The Limit of Risk.** Each company must fix a maximum limit of insurance which it will retain at its own risk on a single life. The amount of this limit is a matter largely of opinion and financial judgment. Generally speaking, it should be fixed at such an amount that the company would not be embarrassed by the payment in a single year of somewhat more than the "ex-

pected" number of claims of the maximum amount. This means that the limit will depend on the size of the company, its assets, the amount of insurance in force, and the amount of its surplus.

A small company may have a limit of \$10,000 to \$25,000 (increasing as the company grows), while a very large company might be willing to retain as much as \$500,000 at its own risk. In the largest companies, with billions of dollars of insurance in force and surplus funds in the hundreds of millions, chance fluctuations are greatly minimized, and there is little real need for any limit of insurance on a single life.

Owing to adverse experience on large policies during the Depression (including a high suicide rate), for a time there was a tendency to reduce the maximum limits of risk. Since the 1940s inflationary factors have caused a great increase not only in the total volume of insurance issued but also in the average amount per policy, which, since 1940, has more than doubled. The increase in the average policy has been due in large measure to a far greater number of what would formerly have been considered "large" policies, i.e., those in the range of \$50,000 to \$150,000. The result has been a general "raising of sights" on company limits in order to meet the changing conditions.

The limits discussed above refer, as stated, to the maximum amounts which a company will issue *and retain* at its own risk. Practically all companies (and necessarily all *small* companies with low retention limits) will issue policies in excess of their own limits, *reinsuring* the excess with some other company.

**Reinsurance.** A reinsurance contract may be entered into with another company either on the *yearly-renewable-term* basis or on the *coinsurance* basis.

On a yearly-renewable-term plan, the company placing the reinsurance is reinsured for that part of the *net amount at risk* (i.e., the face amount reinsured less the reserve thereon) which it desires to reinsure. The reserve for the full amount issued is maintained by the issuing company, which pays to the reinsuring company each year the yearly-renewable-term premium to cover the (decreasing) amount of reinsurance.

Under the coinsurance plan the reinsurance company receives

a proportionate part of the premiums less commissions and an expense allowance and is liable for a corresponding part of all payments under the policy made by the issuing company. To carry this into effect a coinsurance certificate is issued by the reinsuring company to the issuing company for each policy reinsured.

A modification of the coinsurance plan is that under which the company retains the entire reserve. Throughout the calendar year all transactions are carried out as under a regular coinsurance agreement. At the end of the year the reinsurance company pays over to the issuing company the amount of the net increase in the aggregate mean reserve adjusted for interest earned by the issuing company during the year. This arrangement may be suitable when the reinsuring company has not been licensed in the home state of the issuing company, in which case reserves on reinsurance would not be a permissible deduction from the reserve liability of the issuing company.

The yearly-renewable-term plan of reinsurance has been preferred by smaller and medium-sized companies because it permits them to retain a larger amount of the premium in their own assets, while the larger companies have generally preferred the coinsurance or modified basis, under which their dividends are guaranteed by the reinsurance company on the portion of the policy reinsured.

A reinsurance contract, whether of the yearly-renewable-term or coinsurance type, may be on an *automatic* or on a *facultative* basis. Under the automatic form of contract, which provides for reinsurance of all or a definite portion of any amount issued in excess of the issuing company's limit, the reinsuring company binds itself unconditionally to grant reinsurance automatically, i.e., without any option to decline to reinsure in a particular case. This type of reinsurance contract enables the issuing company to issue a policy at once, for an amount of insurance up to its own limit of retention plus the automatic reinsurance. If the amount of insurance applied for is greater, the excess may usually be submitted on the facultative basis. A facultative contract provides for optional acceptance by the reinsuring company. The is-

suings company must, in each case, submit copies of all papers in respect to each risk, and upon receipt thereof the reinsuring company will decide whether it will grant the reinsurance. Thus the reinsuring company can apply its own selection standards, whereas under an automatic contract it accepts the selection of the issuing company.

The amount of reinsurance available under a reinsurance agreement generally bears a definite relationship to the amount which will be retained by the ceding company, the proportion of reinsurance granted to the amount of such retention decreasing as the retention by the issuing company increases. For example, where a small company has a retention of \$10,000 it may be able to get automatic reinsurance coverage of four times its own retention, enabling it to issue a policy for \$50,000, while in a larger company with a retention of \$50,000 or more, the automatic reinsurance obtainable under the agreement would usually not exceed the amount of the issuing company's retention. However, agreements may be made with more than one company.

An automatic agreement may contain a provision that in any case where the total insurance in force or applied for (in all companies) exceeds a specified amount the reinsurance will not take effect automatically. This would protect the reinsuring company against the possibility of finding itself on the risk for more than its own limit and being unable to reinsure the excess itself.<sup>4</sup>

**Life Insurance without Medical Examination.** Originally, life insurance was issued without medical examination. In the early days of life insurance in England each applicant appeared in person before the directors of the company, who determined his eligibility for insurance largely on the basis of his personal appearance. Since those days the science of selection has developed considerably, and, until comparatively recently, a medical examination has been regarded as an indispensable feature of selection. A medical examination such as is now usual is, however, not indispensable under favorable conditions with proper safeguards and within reasonable limits of age and amount.

<sup>4</sup> A specimen reinsurance agreement, yearly-renewable-term basis, facultative plan, is given in Appendix B.

The practice of insurance without medical examination, usually called *nonmedical* insurance, grew up first in Canada and more recently in the United States. In Canada this development took place largely because of the difficulties of securing medical examinations in sparsely populated districts and also because of the relatively high expense of medical examination for policies of small amount. The limit of the amount of insurance which will be issued without medical examination varies in different companies and is usually from \$5,000 to \$10,000. Usually, also, the plan is applicable only up to age forty or forty-five. Experience has shown that high mortality must be expected on such insurance issued at higher ages, and the tendency has been to reduce the limiting age at issue to forty or thirty-five. The form of application used in connection with such insurance is elaborate, comprising all the questions usually contained in an application blank as well as those which the applicant would be asked by a medical examiner, while the agent is generally required to fill in a detailed certificate and recommendation. The company retains the right to call for an examination where that seems desirable.

In recent years there has been a considerable extension of non-medical business in the United States. A factor in this development was the shortage of medical examiners during the war years. Following the Canadian practice, nonmedical insurance was for some years restricted to rural districts. The amounts involved were small, the age limits not too high, and the experience generally satisfactory. The locale and class of the business contributed to a satisfactory experience. Rural mortality is generally favorable, and the inspection reports are reliable since the applicants are usually personally known to the correspondents and to the agents. Gradually the business was extended territorially to large towns and cities, where the situation was different. The applicant was not always known to the agent, and routine inspection reports are not so satisfactory on city business. In addition, towns and cities contain a greater proportion of foreign-born applicants, in connection with whom the underwriting problem is always more difficult. Extensions of nonmedical insurance were at first made only to the



smaller and medium-sized towns. During the war, because of the shortage of medical examiners, some companies extended the plan to the larger towns and cities, and some of them continued that practice after the termination of the war.

The mortality on nonmedical business will normally be somewhat higher than on medically examined business, not only because of purposeful selection against the company where the applicant conceals adverse information, but also because of the presence of impairments unknown to the applicant that only a medical examination would reveal. On the other hand, there is a substantial saving in expense, a saving which is relatively important since nonmedical business is restricted to the smaller amounts of insurance. This saving should be sufficient to offset the extra mortality, and that is the general basis and justification of the plan. Furthermore, the availability of nonmedical insurance may put business on the books of the company which would not otherwise be written.

An important element in the successful writing of insurance on a nonmedical basis is the reliability of the agency force of the company. The privilege of writing nonmedical insurance is to the agent's advantage, and if it is used honestly and intelligently the company need not anticipate an unfavorable result.

In the important field of substandard insurance it is still customary to require a medical examination, although nonmedical insurance may be considered for some of the occupational groups where the lower extra premiums are charged and where the hazard is largely that of accidents.

There are two branches of nonmedical insurance that require specific mention. The first, *salary savings insurance*, is written on employees under the usual nonmedical rules with no territorial restrictions. Premiums are collected from the employer, usually on a monthly basis, so that there are additional savings in expense. In addition, under salary savings insurance there is a further offset to any tendency to individual adverse selection in the selection of the group before authorizing the solicitation of business and in the fact that all those insured must be actively at work. The mortality

experience on this type of business, while varying a great deal between different companies, has not ordinarily been so favorable as general nonmedical business.

Another special form of nonmedical insurance is that under which the privilege is granted to those who have passed a medical examination within a stated period, which may be 1 to 5 years, to take *additional* amounts of insurance up to a stated limit without further examination. In the application for such additional insurance, the applicant brings his physical and medical history up to date, and the case is underwritten on the basis of both the old and the new information. The general experience under this type of nonmedical insurance has not been very favorable and, as would be expected, indicates some adverse selection by those applying for it.

**The Numerical-rating System.** The majority of the applications received by a life-insurance company present no significantly adverse features and can be accepted, and policies issued, at standard rates. In such cases a review of the information contained in the application, medical examination, and inspection report, by a *lay underwriter*, i.e., a trained clerk, is sufficient to classify the applicant as a standard risk. In other cases involving some unfavorable feature, the classification of an applicant (as insurable on a standard basis, or on a substandard basis at higher premium rates, or as uninsurable) would normally require the consideration of the medical director and other selection officers of the company. The main purposes of the *numerical-rating system*, which is now used by many companies, including most of the large companies, are to expedite the handling of such applications and to secure a greater degree of consistency in making decisions than would be possible where the decision depended only on the opinion and judgment of the person handling the particular case. Companies using the system, however, usually put a numerical rating on all applications—even those clearly acceptable at standard rates. While this is not necessary in order to classify most applications, it provides a means of measuring the average *quality* of business submitted by different agencies or by individual agents.

Under the numerical-rating system an *average* standard risk

is assigned a rating of 100. Unfavorable departures from the average involve a *debit* or *addition* to the "par" rate of 100, while features that make the applicant better than average result in a *credit* or *deduction* from the par rating. The factors that are generally taken into account in assigning these debits and credits are (1) build, i.e., height, weight, and distribution of weight; (2) physical condition; (3) medical history; (4) family record with regard to ages at death and health; (5) occupation; (6) habits; (7) residence; and (8) moral hazard. A debit or credit may also be allotted for the plan of insurance applied for. For example, there may be a debit for term insurance (which usually shows somewhat less favorable mortality experience than do other plans) or a credit for endowment insurance under which the amount at risk decreases more rapidly.

The numerical values of the debits and credits are based on statistics showing the effect on mortality rates of the various factors involved. For example, if the mortality experience among persons in a certain occupation or having a particular degree of overweight has been 110 per cent of that among all standard risks, there will be a debit (addition) of 10 *points* in computing the numerical rating.

The usual procedure is to determine, first, the *basic rating*, which depends on the applicant's *build* and is taken from a set of prepared tables showing the basic ratings according to age, sex, height, and weight. The proper debits and credits, if any, for the other factors are then added or subtracted, and the final numerical rating for the case is thus obtained. In a particularly favorable case the rating may be as low as 75 or 80, while if there are severe or numerous unfavorable elements the rating may be several times the par rating of 100. If the numerical rating obtained in this manner is not greater than about 125 or 130 (depending on company practice) insurance is granted on a standard basis. The standard class thus covers a range of ratings from about 75 to, say, 125. Cases where the rating is higher than the standard limit either are assigned to the appropriate substandard class and insured on special terms (as explained in the following chapter) or, where the company does not transact substandard insurance or where the

rating is higher than for the highest substandard class, are declined.

The foregoing description of the numerical-rating system is somewhat oversimplified. Where there is more than one impairment, the proper rating will not necessarily be obtained by simply adding the respective debit factors for the various impairments. For example, underweight in conjunction with a family history of tuberculosis would require (particularly where the applicant is young) a higher rating than that obtained by merely adding the debits for the two adverse factors. The determination of the numerical rating is, therefore, not a purely mechanical or automatic process in all cases but may call for special consideration and judgment. The system is not a substitute for individual judgment but is a very effective aid in expediting the classification of risks and in securing greater consistency of treatment. It has the further advantage that the scales of debit and credit factors can readily be changed from time to time to take account of greater knowledge or more up-to-date experience in the effect on mortality rates of various impairments. Such information is obtained very largely from the studies made by the Joint Mortality Committee of the Society of Actuaries and the Association of Life Insurance Medical Directors.

### REVIEW QUESTIONS

1. Upon what three things does a company generally base its action in accepting or rejecting an application for life insurance?
2. Outline briefly the nature of the information supplied in each of the three things referred to in question 1.
3. Formerly, persons who made occasional or frequent journeys by regular airlines were required to pay an extra premium. State two reasons why this is no longer considered necessary.
4. What is an exclusion clause? Under what circumstances might such a clause be used?
5. State the arguments for and against insuring women at lower premium rates than men.
6. What is meant by a company's retention limit? Why is any limit necessary? Why is this limit generally lower at very low or very high ages at issue?

7. Explain the yearly-renewable-term and coinsurance plans for reinsuring amounts over a company's limit.

8. Explain the difference between automatic and facultative reinsurance. What are the principal advantages of each?

9. Write a short description of nonmedical insurance. Include the reasons for issuing this type of insurance, the limitations within which it may be issued, and any special applications of the plan.

10. What is the numerical-rating system? What are its advantages as compared with individual selection of each application?

## Insurance of Substandard Lives

The principles of insurance which have been discussed in previous chapters are, of course, not limited in their application to standard lives. Groups of persons who are, for various reasons, subject to higher than normal rates of mortality can be insured on the same principles. In order to insure such a *substandard* group, all that is necessary is that information is available about the rates of mortality to be expected and that a sufficiently large number of persons to yield average results is insured.

In dealing with both standard and substandard insurance, emphasis should be placed on the insurance of *groups* rather than *individuals*. No matter how much information may be obtained about an individual at the time of application, there is no certainty about how long he will live. An applicant who passes every test for standard insurance may die within a few days or weeks, as frequently happens, while an applicant subject to some serious medical impairment or occupational hazard may live to extreme old age, as also frequently happens. What is certain is that in a large group, of, say, 1,000 persons, who are all subject to an impairment or extra hazard, the rate of mortality will be higher than in a group *not* subject to the extra risk. Applicants for insurance must, therefore, be classified as standard or substandard on the basis of statistical past experience in the same type of risk. The fact that an applicant who is rated as substandard or is declined lives to be a hundred does not (as is frequently supposed) show that the company made a mistake in his case. Even in groups with very serious impairments, some individuals will live

to old age. The company cannot tell in advance *which ones* will do so and must treat all such applicants alike.

An applicant may be rated as a substandard (or *impaired* or *underaverage*) risk on account of (1) an existing medical impairment, such as overweight, a heart defect, or abnormally high blood pressure; (2) past illness or disease, such as tuberculosis, which may recur or which may have affected the prospects of longevity; (3) an unfavorable family history in regard to matters which are or may be hereditary such as tuberculosis, cancer, diabetes, or mental illness; (4) occupation involving extra risk of accident or unhealthful conditions of work; (5) residence in an unhealthful climate or where sanitary conditions are poor; and (6) "moral" or "environmental" hazard such as exists in certain occupations connected with the sale of alcoholic liquors or in the entertainment business.

**Insurability of Substandard Lives.** In theory there is no uninsurable risk (except, perhaps, those suffering from active and mortal disease), but in practice there are some groups of persons who are unable to obtain insurance because of the very high degree of extra risk to which they are subject. If the rate of mortality to be expected in a given group of lives is known, it is possible, provided the group is large enough, to grant insurance on suitable terms almost irrespective of the extent of extra risk. In some cases, however, the rate of premium required would be so great that few, if any, would agree to pay it, and those would probably be the worst of the class. Moreover, in certain types of extra-hazard groups lack of knowledge about the probable experience and lack of a sufficient number of cases upon which to base an average experience render it impracticable to grant insurance. Insurance is, in fact, available in some companies to applicants in groups subject to as much as five times the normal mortality.

Statistical information on past experience is necessary, both in order to furnish a fair basis for the insurance of those subject to different types of impairment and to enable the companies to extend the benefits of insurance to additional groups not previously insurable. Progress in medical and surgical science, as well as the increased adoption of better methods and the use of safety devices

in hazardous occupations, is continuous. There is, therefore, a general trend toward more favorable terms for the insurance of substandard lives and also toward increasing the number of classes of such lives which can be offered insurance. The companies constantly keep informed of such developments and make frequent investigations of the mortality experience in the various categories of extra risks. This is done chiefly by the Joint Mortality Committee of the Society of Actuaries and the Association of Life Insurance Medical Directors, but many other sources of information, such as government reports or publications of industrial corporations, are constantly under study.

**Incidence of Extra Risk.** Before discussing the various practical methods of insuring substandard lives it is necessary to consider certain general principles which affect fundamentally the treatment of different types of extra risks. *Financially* a great deal depends on whether the extra claims in a substandard group may be expected to occur chiefly in early life, middle age, or old age or are equally likely to occur at any age. To put it in a slightly more technical way, it is of importance in determining the proper method of rating to know how the extra mortality is likely to be distributed. Consider a large group of persons, all of whose family histories contain a record of one or more cases of tuberculosis. A larger number of deaths will probably occur in a given period in such a group than is to be expected in a normal group. The number of additional deaths is a measure of the degree of extra hazard during the period of observation. It would undoubtedly be found in such a case that the majority of the extra deaths occurred at the lower ages and shorter policy durations, since the effect on mortality of a family history of tuberculosis diminishes with increasing age. Again, if one considers another group composed of persons all of whom are considerably above the average weight, there will also be found a higher death rate than is to be expected in a normal group. The distribution by age and duration of the extra mortality in the latter group would, however, be entirely different from that in the former group, since the effect of overweight on mortality increases with age.

From these considerations it follows that in order to decide upon



suitable terms for insurance it is not sufficient to know merely the extent of the aggregate extra mortality in any given period. If suitable terms for insurance are to be offered, it must be known how the extra mortality will probably be distributed since, even if the total extra mortality in a given period is the same in two groups of impaired lives, a smaller extra premium will be sufficient if the extra deaths do not occur on the average until the later durations than if they occur soon after the policies are issued.

For practical purposes, substandard lives may be classified in three broad groups, in the first of which the additional hazard is approximately constant at all ages; in the second, increasing with age; in the third, decreasing with age. Certain types of impairment exist where the extra hazard increases for a time and later decreases. In fact, there are many impairments which are commonly placed in the category of increasing extra risk which are in reality of this latter description. Practical considerations, however, render it necessary to ignore too great refinements.

Many impairments arising from past history of disease are of the decreasing-hazard type. Residence in an unhealthful climate may also be a decreasing extra hazard, since in many cases persons become acclimatized after a more or less protracted residence. Many occupational hazards represent an approximately constant extra risk, as do certain types of physical defects. Most extra hazards of this latter type tend to increase somewhat with age but for practical purposes may be treated as if the extra mortality were constant.

**Practical Treatment of Substandard Risks.** The principal methods of insuring substandard risks will now be described, and their suitability considered in the light of the principles referred to above. It must be remembered that, while theoretical considerations furnish the foundation of practical rules, it is not necessary or possible to adhere rigidly to a strictly scientific treatment in all cases.

*Increase in Age.* One method is to *rate up* the applicant to a higher age. This was the most usual method (except for occupational hazards) in the early days of substandard insurance, at about the beginning of the present century, when very little sta-

tistical information was available about the effect of medical or other impairments on rates of mortality. The addition to age in any particular case was, at that time, more or less arbitrary and was usually based on the opinion of the medical examiner. For many years there has been a tendency to abandon this method for the reasons explained below and to use other methods based on the mortality rates experienced among substandard lives. However, the method has important practical advantages. It is still used to some extent.

Where a policy is issued at the rate of premium applicable to a greater age than the applicant's real age, the assumption involved is that the applicant is, for insurance purposes, equivalent to a person of the rated-up age. Table 10-1 illustrates (on the basis of

TABLE 10-1. EXTRA MORTALITY PROVIDED FOR BY RATING UP AGE.  
ADVANCE IN AGE 5 YEARS. TABLE Z MORTALITY

Year of insur- ance	True age at issue 25			True age at issue 45		
	Rate of mortality per 1,000		Extra deaths per 1,000	Rate of mortality per 1,000		Extra deaths per 1,000
	Assumed (true age + 5 years)	True age		Assumed (true age + 5 years)	True age	
1	2 5	2 4	0 1	10 1	6 9	3 2
10	4 2	3 0	1 2	21 5	14 1	7 4
30	21 5	14.1	7 4	116 9	76 3	40 6

Table Z mortality<sup>1</sup>) the extent and distribution of the extra mortality for which provision is made by this method where the addition to the age is 5 years.

The table shows that, in the case of a group of applicants whose real age is twenty-five and who are granted insurance at an ad-

<sup>1</sup> Table Z is a mortality table which was used in connection with the preparation of the C.S.O. Table. It was an accurate measure of mortality experience during the period 1920 to 1934, i.e., without adjustment for practical purposes.

vance in age of 5 years, the extra rate of mortality for which provision is made is at first very small but increases rapidly with the duration of the policy. In the first year provision is made for practically no extra claims, the rate of mortality at age thirty being only slightly greater than at age twenty-five. In the tenth year provision is made for an average of 1.2 extra claims per 1,000 lives surviving at the beginning of the year, and in the thirtieth year for an average of 7.4 extra claims per 1,000 lives insured. For a higher age at issue these characteristics are more marked. Thus in the case of a group of applicants whose real age is forty-five and who are likewise rated up 5 years, the number of extra deaths provided for increases from about 3 per 1,000 in the first year to about 40 per 1,000 surviving in the thirtieth year. This rapid increase in the rate of assumed extra claims arises from the fact that the increase in the normal rate of mortality between any age and a higher one becomes greater as the age increases. Thus, the difference between the rates of mortality at ages twenty-five and thirty is only a small fraction of the difference between the rates of mortality at ages sixty and sixty-five.

The plan of dealing with substandard risks by rating up the age is thus suitable, at least from a theoretical standpoint, only when the extra risk is of a decidedly increasing type and where the extra risk continues to increase indefinitely at a greater rate. From a practical point of view, however, the method may be used with sufficient accuracy for all types of substandard risks where the extra mortality, *in general*, increases with age. Few impairments actually present such a consistent and rapid increase in the rate of mortality as is implied by a rating-up in age.

In the case of endowment policies, where the insurance is terminated in a limited number of years and particularly where the maturity of the endowment takes place at a comparatively early age, the amount of extra mortality provided for, even by a substantial increase in age, may be very small. This may be seen by referring to the premium rates of any company for endowment insurance and measuring the additional costs in terms of the premium paid instead of in terms of the numbers of extra claims. It will be found that, except in the case of long-term endowments or

where the age at issue is high, the extra premium in dollars and cents obtained by the addition of, say, 5 years to the age is small. This is the case because the period of greatest assumed extra mortality (old age) is not covered.

The method of rating up the age has some important practical advantages: (1) it is a very simple method; (2) the policies can be dealt with for all purposes as standard policies issued at the higher age; (3) no special tables of premium rates, cash and other nonforfeiture values, reserves, or dividend calculations are required; and (4) the method is easily understood by all concerned. From the applicant's point of view, the method has the subsidiary advantage that policies so issued carry correspondingly higher cash values and paid-up values and also higher dividends. Thus, part of each extra premium paid is refunded as a dividend, and another part is building up a higher reserve and cash value than there would be on a policy issued at the true age. If the policy is surrendered for cash, the additional cash value is, in effect, a refund of part of the extra premiums paid. This last fact shows that the method is unsuitable where the extra mortality is decreasing or constant, in which case the whole of the additional premiums paid will have been required to provide for additional death claims.

*Flat Extra Premium.* Where the extra risk is considered to be constant and largely independent of age, as is the case in most occupational hazards, the usual procedure is to issue a standard policy with provision for a flat extra premium payable as long as the extra hazard continues.

The extra premiums cover the extra claims and any additional expense each year. The policies can otherwise be treated as standard policies for the purpose of dividends, nonforfeiture values, etc. While this is a simple and practical way of handling such cases and one which is understood by the policyholder, it is not theoretically correct unless, in determining the extra premium, allowance is made for the fact that although the face amount of the policy remains the same, the amount at risk decreases as the reserve increases. Thus, a flat extra premium in the case of life and endowment policies really provides for an increasing extra risk. In the

case of a 1-year-renewable-term policy a flat extra premium would be equivalent to the same constant addition to the rates of mortality, since there is no terminal reserve on such a policy, but this is not true for other types of policies.

Where the extra risk is constant, the extra premium charged for a life or endowment policy should theoretically diminish in amount each year because of the increasing reserve and consequent reduction in the net amount at risk. This, however, does not occur in practice since it would entail disproportionate labor and expense. Since constant extras are necessarily approximations and since they must contain some safety margin, it is simpler and sufficiently accurate to fix a suitable extra premium which takes into account the maximum or the average risk rather than to provide for a variable charge decreasing each year. Some companies vary the amount of the extra premium for constant extra hazard according to the plan of insurance, charging less for endowment policies than for whole-life policies since the average amount at risk is less in the former case.

Usually, flat extra premiums (on participating policies) are on a nonparticipating basis; i.e., no additional dividends are payable on account of the additional premiums. Also, as indicated above, the extra premiums paid do not increase the cash or other nonforfeiture values. An extra premium of, say, \$5, therefore, represents a greater charge than an increase in age resulting in an increase of \$5 in the premium payable, since in the latter case both dividends and cash values are increased by payment of the extra premium.

*Extra-percentage Tables.* The fact that standard risks with numerical ratings ranging from about 75 to about 125 are grouped together as one class and pay the same rates of premium suggests that a simple and consistent system of dealing with substandard risks is to divide them into similar broad groups according to their numerical ratings and to base premium rates and values on the *average* numerical rating in each class.

This is now, in fact, by far the most common method used for the insurance of substandard risks, other than those substandard on account of occupation or some temporary extra hazard where a flat extra premium is more suitable. Companies using this method

usually provide for at least four and sometimes as many as six or seven such substandard classes, depending on the maximum extra mortality which the company is willing to insure. The average numerical ratings within these classes may range from 150 to as high as 500 or even higher. Applicants who are found to be unacceptable in the standard class are placed in the appropriate substandard class in accordance with their numerical ratings.

It has been pointed out that, theoretically at least, the treatment of substandard risks should take account of the probable *incidence* of the extra mortality to be expected. The *extra-percentage* or *special-class* method does not differentiate between the various types of substandard risks with different incidence of extra mortality. While this is a theoretical defect of the method, it may reasonably be maintained that it is unnecessary to adopt a greater degree of refinement in classifying and rating substandard risks, which usually make up only about 10 per cent of the total insurance issued, than is done in the case of standard risks, which make up the other 90 per cent. The assumption of an extra mortality of a constant percentage of the standard mortality rates implies, of course, an extra mortality which increases with age for all types of cases rated on this basis. But although there are some important categories of substandard risks which show a decreasing rather than an increasing extra mortality, a simple procedure which, on the average and for most cases, is reasonably accurate is simpler and less expensive to operate.

It might be thought that, on this basis, persons subject to almost any degree of extra mortality could be safely insured, and as already mentioned, some companies do offer insurance to groups with ratings as high as 500 and, occasionally, even higher. But as the ratings increase there will probably be fewer applicants willing to pay the necessarily high premiums, and the fundamental requirement that a class must be large enough to secure average results will be more difficult to meet. Furthermore, where a very high rating is imposed there will be some tendency for the better risks to refuse the terms offered and the worse risks to accept them so that the mortality actually experienced may be worse than expected.

Additional mortality to be provided for under this system is properly determined by applying the extra percentage to a table of mortality rates representing the company's actual experience among standard risks, not to the particular standard table (such as the C. S.O. Table) which is used in connection with standard insurance and which provides for mortality somewhat higher than the normal standard experience.

Nonforfeiture values may be based on the special mortality table (including the extra percentage), but sometimes normal standard values are allowed where these satisfy the requirements of state laws. In that case it is usual to eliminate provision for extended term insurance or to compute the periods under that option on the basis of the higher mortality rates. The reserves held should correspond to the mortality basis assumed, requiring separate classification records and tabulations for such policies. Where constant extras are charged, the usual practice is to hold the normal reserve plus a proportion of the extra premium for the balance of the policy year (with necessary adjustment for limited-payment policies).

*Liens.* Where the extra mortality to be expected is of a definitely decreasing nature—as in an impairment arising from family history of tuberculosis—a suitable method which has been used to some extent is that of creating a lien against the policy for a number of years, the amount and term of the lien depending on the extent of the impairment. If adequate statistics are available, it is possible to calculate the term and amount of lien which would be the equivalent of the extra risk undertaken. In that case the policy is issued at the normal rate of premium, and if death occurs before the end of the period specified, the amount of the lien is deducted from the amount of the policy. Thereafter, the full amount of the policy is payable. A refinement of this method is that under which the lien gradually decreases. In most cases this is a more reasonable and satisfactory basis.

In cases where the applicant believes that he is a good risk, he may prefer to take a policy at the ordinary rate of premium subject to a lien rather than pay an extra premium. A greater number of persons in such groups will die during the early years than in a

standard group, and the deductions made in their cases provide the amount necessary to pay for the extra hazard in respect to all those who are insured. The fact that the insurance protection is reduced during the years when the lien is in existence will not usually impress the person insured so forcibly as would the payment of an extra premium on a policy for the full amount. Mathematically, the two arrangements are equivalent.

A practical and serious disadvantage of the lien system is that a comparatively large lien is necessary to offset a small degree of extra mortality. There is also apparently some doubt about whether such liens conflict with laws in certain states which prohibit any provision under which settlement of the policy as a death claim may involve payment of less than the face amount.

The lien system (partly for the reason just mentioned) has not been widely used in the United States but has been used extensively in Canada and in Great Britain.

*Other Methods.* A method of dealing with substandard risks where the extra mortality is small or where its nature is not well known is to make no extra charge but to place all the members of the group in a special class for dividend purposes, adjusting dividends in accordance with actual experience. This method is of limited scope since only a small degree of extra mortality can be dealt with in this way. Moreover, this method requires that a sufficiently large number of risks be obtained in each such class to secure an average experience.

Sometimes it is possible to deal with the impairment by merely limiting the plan of insurance. Some impairments present an extra mortality which is largely postponed to advanced middle or old age. When the degree of impairment is not too great, it may sometimes be met by limiting the applicant to endowment insurance. An applicant aged thirty showing moderate overweight might be given a standard policy on the 15- or 20-year endowment plan although if insurance were for the whole of life a substandard classification might be necessary.

*Removal of Extra Premiums.* The question often arises whether an extra premium should be removed if the element of additional risk is eliminated. Where, on subsequent examination, it is found that a medical impairment no longer exists, it is the usual practice



to remove the extra rating. Such a removal of extra premium is justified largely on practical grounds. Theoretically the extra premium should not be removed in the case of medical impairments. Many of those who belong to the same impairment group may have deteriorated rather than improved. Many of them, therefore, may now be entirely ineligible for insurance on any terms, while others may be insurable only at a greater extra premium than formerly. In these cases the company cannot obtain an increase in the premium payable, and therefore it cannot afford to remit the extra premium in the case of those who have become standard risks, unless the extra premiums were calculated in the first place on the assumption that they would be payable only while the extra hazard remained.

Where an extra premium has been imposed on account of occupation, residence, or a risk which is temporary in its nature, it is proper to discontinue the extra premium after the cessation of the extra risk. It is necessary, however, to exercise care in doing so, more particularly in occupation and residence cases where there is a possibility that the insured may subsequently return to the hazardous occupation or residence or that his health may have been affected. For this reason it is customary in such cases to require that a certain period shall have elapsed since the cessation of exposure to extra hazard, and sometimes a medical examination is also required. It must be remembered that usually it would not be possible to reimpose the extra premium if the extra hazard was again incurred.

**Value of Substandard Insurance.** Nearly all the principal life-insurance companies of this country transact substandard business. Several important companies which formerly wrote standard insurance only now write both standard and substandard. By doing so they provide life insurance for many who would otherwise not be able to obtain it. Extensive investigations into the rates of mortality prevailing among various types of substandard groups are constantly being undertaken<sup>2</sup> and result from time to time in further

<sup>2</sup>Notably, the joint investigations of the Society of Actuaries and the Association of Life Insurance Medical Directors. These investigations include the periodical "Medical Impairment Studies" and the "Joint Occupation Studies" based on the experience of a group of companies.

extensions of this class of business and in revisions of the terms upon which substandard policies are issued. It may be said that life insurance is now available to all save those subject to such excessive rates of mortality as would require premiums greater than they would be willing to pay. Where the extent and nature of the hazard are unknown or are imperfectly known or where only small groups exist, it is necessary for safety to charge rates of premium which are probably greater than will actually be required. In many cases the investigations which have been made have shown that it is possible to reduce extra premium rates in certain classes and thus to grant insurance on more favorable terms. Work done along this line is of the greatest value not only to the companies but also to all those who cannot obtain insurance at standard rates.

By engaging in substandard business, companies facilitate the work of their agents, conserving, probably, 5 to 10 per cent of their total production. Not only is a much wider field opened up to them, but also the percentage of cases which otherwise would be declined is greatly diminished. Those companies that have refrained from insuring other than standard lives have done so chiefly in order to simplify their business. Sometimes it has been thought that substandard insurance would adversely affect the interests of the agents since borderline cases which might otherwise be accepted at standard rates would be likely to be rated up. To a small extent that is bound to be true, but on the whole it is probable that the general widening of coverage is in the best interests of the agents, the companies, and the public. It was also felt at one time that lack of knowledge might lead to heavy losses, but there is no justification for such a view at the present time. The fundamental principles of life insurance are the same for all classes of lives, and it is certainly very desirable that those who, perhaps, stand most in need of insurance should be able to obtain it on reasonable terms.

### REVIEW QUESTIONS

1. Enumerate six different reasons for which an applicant may be ineligible for insurance at standard rates.
2. Explain what is meant by the "incidence of extra mortality." Why

is this important in determining suitable treatment for different types of cases?

3. What are the advantages and disadvantages of the rating-up-in-age method?

4. For what types of substandard risks is a flat extra premium imposed? Why?

5. Outline the basis of and the justification for the special-class or extra-percentage-table system as applied to different types of substandard risks.

6. How are cash or other nonforfeiture values affected under (a) the increase-in-age method? (b) the flat-extra-premium method? (c) the special-class method?

7. Describe the lien system. What are its advantages?

8. An applicant, formerly insured on a substandard basis, is found to be a standard risk. Should the extra rating under his former policy be removed? Why?

9. Why have some companies limited their business to standard risks?

## The Assets

In this chapter the nature, composition, and valuation of the assets of life-insurance companies will be discussed, particularly as they are affected by the various state insurance laws.

The primary objective of a company's investment policy is to maintain the company as a solvent institution. To accomplish this, available funds are used to purchase sound investments, well diversified, which will produce the income necessary to (1) meet contractual requirements, (2) provide necessary investment reserves, and (3) provide for additions to surplus.

Investment reserves are desirable principally in connection with investments in mortgages and real estate to provide for possible losses. The New York State Insurance Department now requires reserves on security investments (bonds and stocks), and it is usual also to set up a voluntary mortgage reserve.

Normally, the investment officers of the company will prepare an investment program each year showing the funds which will become available for investment, making recommendations about the amounts to be placed in various types of investments, and showing expected yields.

**General Principles of Investment Applicable to Life-Insurance Companies.** There are three principal considerations in investing life-insurance funds: (1) security of principal, (2) adequacy of yield, and (3) diversification. A fourth consideration sometimes mentioned is ready convertibility; but since life-insurance policies are long-term contracts and since, normally, cash income exceeds cash disbursements, convertibility, except for a small proportion of the total funds, is not important, notwithstanding the substantial

extent of "demand liability" in the form of guaranteed cash-surrender and loan values as well as various types of deposits.<sup>1</sup>

*Security.* It has been said that the object of a life-insurance company is to pay claims. Its ability to do so is the paramount consideration. For this reason it is generally considered that, except to a small extent, investments of a speculative nature are not suitable for life-insurance funds nor are any other enterprises which involve the possibility of large losses, as, for example, the practice formerly followed by some companies of underwriting new security issues. The fact that such transactions have been or may be very profitable and the argument that, in view of the special opportunities available to such large financial corporations as insurance companies, they may involve little risk of loss are not usually deemed sufficient justification for employing funds which are in their nature quasi-trust funds in any other than sound and conservative investments. The nature of life-insurance funds renders security of principal by far the most important consideration. At the same time, when the extent of the investments of life-insurance companies is taken into account, it would seem that some part of the funds might reasonably be invested in "speculative" securities, such as common stocks of well-managed and successful corporations, or in real estate.<sup>2</sup> In fact, one of the advantages that a large investor should enjoy is the ability, through diversification of investment, to take reasonable advantage of the higher yields obtainable on such investments. This is, perhaps, particularly true of a life-insurance company, which usually has the benefit of the most expert advice. Many of the state laws, however, lay down a distinctly conservative investment policy and aim at a high degree of security not only in the investments as a whole but in the individual items.

<sup>1</sup> The importance of these "demand liabilities" in relation to liquidity of assets has been reduced by the mandatory inclusion in all contracts now being issued of a delay clause as required by the Standard Nonforfeiture Law.

<sup>2</sup> In Great Britain, many life-insurance companies have a substantial proportion of their funds invested in common stocks, in some cases as much as 25 per cent. The British companies are not subject to any legal limitations on their investments.

While the conservative view of the general character of life-insurance investments has been, and is, the one generally held, it is becoming more and more difficult for life-insurance companies to limit their investments largely or entirely to secured obligations (i.e., bonds and mortgages) and to continue to withhold their funds from the available supply of venture capital. This is so not only because the growth of the aggregate assets of life-insurance companies seems certain to exceed the growth in the supply of fixed-interest investments but also because of an increasing public demand that some part of life-insurance assets (forming the greatest and most rapidly increasing capital pool) be made available for the development of industry on a basis of a share in the equity risk. A further reason for such a development lies in the desirability or the need, on the part of the companies, of realizing a higher net yield than will be obtainable if investments are restricted largely to debt or obligations.

*Yield.* Premiums and reserves have always been computed on the basis of what was intended to be a very conservative interest assumption. Prior to the drastic fall in interest rates which began in the 1930s, the rate of interest which it was assumed could be earned during the life of policies being issued had for many years been not more than  $3\frac{1}{2}$  per cent and, in many companies, 3 per cent. Such assumptions provided an interest margin over a long period of 1 to  $1\frac{1}{2}$  per cent or more, and the interest required to maintain reserves was easily obtainable on the best classes of securities. By the middle 1940s the net interest rate on total assets had, in most companies, fallen to the point where the interest earned barely equaled the interest required and, in some cases, was actually less, an entirely unprecedented situation in the history of the business. The low point of the interest yield was reached in 1947, when the *average* net interest rate earned by the principal companies fell to about 2.9 per cent as compared with about 5 per cent in 1930. Since about 1945 the interest assumption for new policies in most companies has been  $2\frac{1}{2}$  or  $2\frac{3}{4}$  per cent. Some companies have adopted a lower rate. There has also been a general process of *reserve strengthening* by the application of surplus funds to place the reserves on existing policies on a lower interest

basis. Interest rates obtainable have shown some improvement during the 1950s, and the net over-all yield in many companies has been increased by investing more in mortgages and less in bonds. The lower rates of interest now being used for premiums and reserves are conservative, but there is, in general, a smaller *margin* than formerly since the actual net earned rate averages at the present time (1957) well before 4 per cent.

In considering yield in relation to a company's operations it is important to realize that the investment income must provide the additions to policy reserves in accordance with the basis upon which premiums and reserves are calculated and that the effective amount of such income will be partly determined both by the expenses of investment and by capital gains or losses. It is the duty of the company to choose its investments in such a way as to secure the highest yield consistent with safety, in order that it may furnish insurance to its policyholders at low cost. In considering both security and yield it should not be forgotten that life-insurance companies must, because of the large amounts to be invested, seek their investments in a wide and varied field. In such circumstances it is not to be expected that losses will be entirely avoided.

*Diversification.* Life-insurance funds should be distributed both *geographically* and among different *classes* of investments. It is sound policy not to have too great a proportion of the total funds in a single investment, in a single class of investment, or in investments which may be interdependent or which depend on the prosperity of a particular section of the country or which may be seriously affected by the normal changes in modern life resulting from technical progress, new inventions, and the like. Some of the states recognize this principle to some extent by limiting the proportion of assets which may be invested in a single investment or class of investment. For example, New York limits any one mortgage loan to 2 per cent of assets; in Wisconsin not more than 10 per cent of the assets may be invested in the stock or securities of any one corporation; in Louisiana not more than 80 per cent of the assets may be invested in mortgages. These and similar laws, the requirements of which would, in any case, be observed by any well-managed company, will, however, be small protection to companies that

do not exercise constant supervision of diversification of investments.

*Marketability.* Under normal conditions, ready convertibility into cash is not a necessary quality of an investment in order that it may be suitable for a life-insurance company. Since most companies show a substantial annual growth, current income is normally much more than sufficient to take care of current disbursements even when the latter are unusually large. In well-managed companies, circumstances under which it would become necessary to sell any assets are remote. Also, because of the large number of different investments, there will always be a certain proportion of the funds in securities that are about to mature or that could be readily converted into cash. There will be, in addition, cash receipts from payments under mortgage loans subject to amortization, bonds called, and the like.

Convertibility into cash by actual sale is in any case largely academic. No sale of a substantial block of securities could be effected without loss—in extreme circumstances, perhaps disastrous loss.

Convertibility of a certain proportion of the investments is, in theory at least, desirable because of the liability to pay cash-surrender values or to grant policy loans, particularly in companies having a substantial amount of “investment” business, such as retirement annuities or endowment insurance. While the companies are protected to an increasing extent by the “delay clause,” this protection could, for practical reasons, actually be availed of only in case of extreme necessity. Failure to pay cash values or grant loans *on demand*, even where the company had the right to delay, would naturally tend to diminish the confidence of policyholders in the soundness of the company.

**Suitability of Various Types of Investments.** The principal types of investments available may now be considered in greater detail from the point of view of their suitability for the investment of the funds of life-insurance companies.

*Real Estate.* Because of its speculative character and relatively low marketability, real estate is, in general, not a suitable investment for more than a small proportion of the assets of a life-insur-



ance company. Until comparatively recently most of the states have restricted real-estate investments to such real estate as is (1) occupied by the company, (2) necessary for the convenient transaction of its business, or (3) acquired by legal process to protect the company's interest, as by foreclosure of mortgage loans. In the last case it is generally required that real estate so acquired must be disposed of within a limited period, such as 5 years, as in New York. A home-office building is a desirable and suitable investment for a well-established company and, until the developments referred to below took place, generally constituted the major part of most companies' permanent real-estate investment. Most companies have also at any time a certain amount of foreclosed real estate awaiting disposal, but even in the years following the depression of the 1930s, when foreclosures were abnormally high, the total of real estate owned did not exceed, on the average, about 8 per cent of total assets for the principal companies.

Some states have liberalized their laws to permit the use of life-insurance funds for the development of housing projects. The New York law, for example, permits a company to "acquire or construct housing projects consisting of apartment, tenement or other dwelling houses" and to acquire and own the land necessary for such projects up to a total investment of not more than 10 per cent of the company's admitted assets. This has been done for a social purpose to aid in relieving the shortage of housing. Projects of this kind can, however, be undertaken successfully only on a very large scale and have, therefore, been limited almost entirely to a few of the largest companies.

A more recent development has been the liberalizing of state laws to permit the acquisition of certain types of real estate as an investment for the production of income, subject to stated limitations and conditions. Thus, in New York, a company may now purchase and develop improved real estate (other than specified types including agricultural, amusement, and club properties) up to a total of 3 per cent of its assets, with a limitation on the size of each such investment and a requirement that the book value be written down by at least 2 per cent a year. Such extensions of the companies' investment powers have been due, in part at least, to the increasing

difficulty of finding suitable and sufficiently remunerative investments for their continually expanding assets, and to the low rates of interest prevailing on other types of permissible investments. One method by which the companies have taken advantage of the right to own real estate as an investment is through the purchase and re-lease of commercial properties such as blocks of stores. Under this arrangement the insurance company purchases the property and leases it back to the operating company on a long lease, usually with right of renewal. This is advantageous to both parties since the insurance company obtains a satisfactory investment while the borrower has, in effect, most of the advantages of ownership without tying up its working capital.

As a result of these developments there has been a gradual increase in the proportion of life-insurance-company assets invested in real estate.

*Mortgage Loans.* Generally speaking, carefully selected mortgage loans satisfy in a high degree the requirements of security and yield. They may also be well distributed both geographically and by type of security. In addition, high-class mortgage investments have always been readily marketable, even in depression years. They are thus suitable for the investment of a substantial proportion of life-insurance funds, provided that the properties are kept under close supervision and a proper margin between the loan and the appraised valuation is maintained. Mortgage loans, because of their stability and permanence and the need of special knowledge and supervision in their handling, are particularly well suited to large investors, such as insurance companies.

At the present time almost all types of mortgage loans carry amortization requirements, i.e., a provision for periodical reduction of principal. Many residential loans are now being made on a fixed-monthly-payment "self-amortization" basis whereby the loan is entirely paid off in a period of 10 to 20 years. This arrangement supplies the company with periodical cash income which is available for current use or reinvestment, while the margin between the value of the property and the amount of the loan is maintained or increased.

The rate of interest on mortgage loans depends primarily on

the ratio of the loan to the value of the property, not on the size of the loan. The yield and security of first-class mortgages have been such as to render them particularly attractive investments, especially when the degree of permanence desirable in life-insurance investments is taken into account.

*FHA and GI Mortgage Loans.* A substantial proportion of the total mortgage-loan investment in some companies is in government-insured and government-guaranteed loans.

Under the National Housing Act and its various amendments, the Federal Housing Commissioner is authorized to insure first-mortgage loans of various types which are made by FHA-approved financial institutions, including life-insurance companies. "Title II" mortgages (described below) are made and insured under the "mutual-mortgage-insurance" plan (i.e., are made out of the "Mutual Mortgage Insurance Fund"), which, among other requirements, provides for monthly payments by the mortgagor (or debtor) of "premiums" to the FHA. These premiums plus prepayment penalties and appraisal fees collected by the FHA constitute the mortgage-insurance fund. Other programs are sponsored by other funds.

The two principal classes of FHA mortgage loans were those insured under Title II and Title VI of the National Housing Act. Since 1954, no new loans have been made under Title VI.

Loans under Title II (by far the most active category) are made on dwellings and rental housing projects for amounts depending on the percentage of the appraised valuation loaned. Generally speaking, mortgages insured under Title II must meet FHA's requirement of economic soundness which is based on city, neighborhood, property, and mortgagor characteristics.

The maximum interest rate allowable for loans on dwellings (Section 203 of the Act) is  $4\frac{1}{2}$  per cent, in addition to which the mortgagor pays  $\frac{1}{2}$  per cent for mutual mortgage insurance, while the maximum interest rate for rental housing projects (Section 207) is  $4\frac{1}{4}$  per cent with the mortgagor paying the same insurance premium.

In event of default the mortgagee must institute foreclosure proceedings within 1 year from date of default and, upon obtaining

title to the property, has the option of either retaining the property or tendering title to the Commissioner for which he will receive debentures issued by the Mutual Mortgage Insurance Fund bearing interest rates from 3 to  $2\frac{1}{2}$  per cent, depending on the date when the loan was insured; these debentures are guaranteed by the U.S. Treasury and mature in some cases 3 years after July 1 following the original maturity date of the mortgage and, in other cases, 20 years after date of the debenture, depending on when the mortgage was insured. On Section 207 mortgages, the mortgagee may elect to assign the defaulted mortgage to the FHA at 1 per cent discount or may institute foreclosure proceedings and tender title to the Commissioner in return for debentures issued by the Housing Insurance Fund likewise guaranteed by the U.S. Treasury and yielding 3 to  $2\frac{1}{2}$  per cent and maturing, in some cases, 3 years after the original maturity date and, in other cases, 20 years after the date of the debenture, depending on when the mortgage was insured.

"GI loans" are made under Title III of the Servicemen's Readjustment Act of 1944 and are *guaranteed* rather than *insured*. The maximum guarantee is 60 per cent of the loan up to a maximum of \$7,500. Loans are amortizable for either 25 years or the economic life of the property, whichever is less, the monthly payments including insurance and taxes. No premium is paid to the Administrator for insuring the loan. The current maximum interest rate is  $4\frac{1}{2}$  per cent. Servicemen of the Second World War and the Korean War are eligible borrowers. In event of default, the Administrator directs the lender to institute foreclosure proceedings with instructions to bid in the property at a specified price if no higher bids are received. In the latter case the lender keeps the purchase price and receives insurance of any excess of the amount due. In the event no specified price is indicated, or if the lender buys in the property for an amount in excess of the specified price, or if the property is bought by a third party for an amount in excess of the specified price, the lender must credit the proceeds of the sale toward the indebtedness and will receive the balance of the indebtedness up to the amount of the guarantee. If the lender buys the property at the price specified by the Administrator, he

may retain it and receive the difference (up to the amount of the guarantee) between the specified price and the indebtedness, or he may transfer the property to the Administrator and receive the specified price plus the difference (up to the amount of the guarantee) between the specified price and the amount of the indebtedness.

Foreclosures of FHA and GI loans have not exceeded  $\frac{1}{2}$  per cent of the number of mortgages insured; however, it should be noted that the period covered has not included major unfavorable economic conditions which would provide a real test for the basic soundness of these plans of insuring mortgages.

Opportunities for investments by life-insurance companies in mortgage loans, particularly on farms and residential properties, have been greatly affected by the federal government's activities in this field. The governmental agencies that have substantial investments either in mortgage loans or in real estate owned are Federal Land Banks, Federal Farm Mortgage Corporation, Farm Security Administration, Home Owners' Loan Corporation, RFC Mortgage Company, Federal National Mortgage Association, Federal Home Loan Bank System, federally chartered building-and-loan associations which are members of the Federal Home Loan Bank System, and the Federal Public Housing Authority.

*Stocks.* At one time both common and preferred stocks were an important source of investment for the funds of life-insurance companies. In 1905 the report of the Armstrong committee expressed the opinion that investment in stocks was fundamentally objectionable and recommended an amendment to the law forbidding such investments. This recommendation was adopted and made effective in 1906 regarding both common and preferred stocks. The reason given for this opinion was that if the stock holdings were small the investment was at the mercy of the majority stockholders, while if the stock investments were large there was a temptation to secure full control, with the result that the company purchasing stock was thus led into active participation in enterprises quite foreign to the purposes for which it was chartered. \*

Only a few states prohibit investment in common stocks entirely, but most states have limitations of one kind or another. Some

prohibit investments in certain specified types of stocks of the more speculative kinds. A company is governed in regard to its investments by the law of the state in which it is legally domiciled.

In New York the law was modified in 1928 to permit a limited investment in preferred and guaranteed stocks which satisfied certain requirements (about earnings, etc.). In 1951 the law was further amended to permit investment in common stocks of companies (1) which are created under the laws of the United States, or any state, district, or territory thereof; (2) which are not banks or insurance companies; (3) whose bonds or preferred stock are permissible investments; (4) which have paid cash dividends on the common stock for the previous 10 years; (5) whose earnings, during these 10 years, were sufficient in the aggregate to pay 4 per cent on the par value of the common stock; (6) whose stock is registered on a national securities exchange.

Investments in such stocks (by New York companies) are subject to the following limitations: (1) not more than 2 per cent of the total outstanding common stock of any company can be purchased; (2) not more than  $\frac{1}{10}$  per cent of a company's admitted assets can be invested in the common stock of any one company; and (3) the total investment by any company in common stocks cannot exceed (a) 3 per cent of its admitted assets or (b) one-third of its surplus at the previous Dec. 31, whichever is less.

The question of the extent to which life-insurance companies should invest in common stocks is controversial. From the point of view of *risk*, the dangers of common-stock investment in general are (1) loss of *capital* through the necessity of selling when prices are low and (2) loss of *income* through reduction or elimination of dividends on stocks owned in times of depression. Life-insurance companies (or other large corporate investors) are not particularly vulnerable in either of these respects. Where stocks are owned outright (as they would be in the case of life-insurance companies) there is little chance that a company would be under any necessity of selling when prices were abnormally low. As for temporary reduction in income, unless a substantial proportion of the total assets were so invested, the loss in income would not be likely to be serious in relation to the total income from all investments.

Over a long period in the past, including periods of severe depression, high-grade common stocks would, on the average, have proved a much more remunerative investment than bonds, giving a materially higher *average* annual yield and, in addition, a substantial *average* appreciation in value. This statement applies, of course, only to a large investor with a well-diversified portfolio of stocks of good quality.

It seems reasonable that some part of the large funds needed to finance the development of commerce and industry, as venture capital rather than as loans (bonds), should be provided out of the very large aggregate assets of life-insurance companies.

These considerations—higher average yield, probability of a long-term average appreciation in value, and contribution to the national working capital—are all strong arguments for the investment of some part of life-insurance assets in stocks. The fact that, in spite of these considerations, life-insurance companies in the United States do not invest any substantial proportion of their assets in stocks (whether common or preferred) is accounted for, not so much by a belief that such investments are speculative and unsuitable (although that view is frequently expressed) as by practical considerations, which—aside from any legal limitations—render large-scale investment in stocks virtually impossible. These practical considerations are (1) the requirement that, in financial statements, stocks must be entered at their current market values and (2) the limitation of surplus under state insurance laws.

Valuation of assets is discussed later in this chapter, and the limitation of surplus in a later chapter. It is sufficient to point out here that, since a drastic fall in the market prices of stocks is always a possibility, no company could feel safe from the risk of technical insolvency at the date of a financial statement unless it had surplus funds ample beyond question to absorb any possible reduction in the market value of the stocks owned.

It appears, therefore, that unless the companies were to be permitted to maintain, and did maintain, very much larger surplus funds than at present (which would decrease the amounts available for distribution to policyholders) or unless stocks could be valued in times of depressed values on some basis higher than current market prices (which would be, to some extent at least,

questionable and unsatisfactory), it is not practicable to invest more than a relatively small percentage of assets in stocks.

*Bonds.* Bonds, whether government, state, county, municipal, or corporate, are the most convenient outlet for available funds and the most readily realizable of the "permanent" investments. The greater part of the total funds of most life-insurance companies is invested in bonds. Such investments can normally be made with due regard to the requirements of security, yield, distribution, and convertibility.

Bonds may be broadly divided into the following classes: (1) government (United States, Canadian, and foreign), (2) governmental subdivisions (state, county, and municipal), (3) railroad, (4) public utility, and (5) miscellaneous corporate bonds.

United States government bonds provide the highest possible degree of security but are not attractive for permanent investment because of low yield. Before the First World War there was practically no investment by life-insurance companies in government bonds. During both world wars very large amounts of government bonds were purchased by the companies, particularly during the Second World War, when the total holdings accounted, in the aggregate, for almost half of the companies' assets. The proportion varied considerably in different companies. Since 1945 the investment in government bonds has decreased.

The only foreign-government bonds which are held to any extent by United States companies are those of Canada. Nearly all the large companies and many of the smaller ones do business in Canada. These companies usually have Canadian investments approximating their Canadian liabilities (policy reserves, etc.).

State, county, and municipal bonds are rather a mixed group. The issues which would be acceptable investments have not, in the past, offered an attractive yield, and this group has therefore formed a relatively small proportion of the total bond investment. Many bonds of this type are "tax-free"; i.e., the dividends are not subject to income tax. While this makes them attractive to large individual investors in spite of the low yield, life-insurance companies, because of the method by which their income tax is computed, do not get the same advantage as an individual investor. However,



the situation has been somewhat different since the companies became subject to higher taxes and also because of generally higher yields on these bonds.

Corporate bonds are normally the backbone of the bond investments of life-insurance companies. The investment in railroad bonds, which formerly formed as much as one-third of the total assets, has decreased. The corporate bonds now owned or being purchased are mostly those of public-utility companies such as gas, electric, and transit corporations, and the bonds of miscellaneous industrial corporations.

It was the opinion of the Armstrong committee that there should be no restrictions on investment in corporate bonds other than collateral trust bonds (bonds secured by shares of stock). The committee felt that the effect of making restrictions would be to exclude the companies from proper opportunities to secure a reasonable return upon their funds. The companies have very large amounts to invest and should be allowed, subject to proper limitations, to use every legitimate field of investment. Under a sound investment policy there is little, if any, necessity for limitations on the right of investment in corporate bonds. Where bonds are secured by shares of stock (collateral trust bonds), they are suitable investments for life-insurance companies only if the stocks by which they are secured are suitable for the same purpose.

In connection with investment in bonds or other similar forms of evidence of corporate indebtedness a modern development has been the system of investment by *direct placement*. In the case of small industrial issues, considerable cost advantage may be obtained by the borrower in this way as compared with making a public offering through an investment banker. Other advantages to the borrower are greater speed in obtaining needed funds and the possibility of greater flexibility in terms of repayment. The lower cost of financing is reflected in a somewhat higher yield. The direct-placement system of investment is well adapted to the needs of life-insurance companies which are constantly investing large sums.

*Collateral Loans Secured by Stocks or Bonds.* Collateral loans secured by stocks or bonds are a suitable form of investment for

short periods, provided that the market value of the security is maintained in excess of the amount loaned and the stocks or bonds forming the security are such as the company may and would be prepared to hold as a permanent investment. Very few such loans are made. It is usually preferable, for temporary investment, to purchase short-dated government securities. The yield on these is very low, but that is less important than quick convertibility into cash.

**Legal Restrictions.** Some of the legal restrictions imposed by state laws on the investment of life-insurance funds have already been mentioned. The objects of legal regulation of investments are (1) to ensure soundness and to prevent speculation, as by laws prohibiting or restricting investments in stocks or in real estate; (2) to eliminate improper practices, as by laws prohibiting underwriting operations or intended to confine insurance companies to their particular fields of operation; and (3) to secure the investment of life-insurance funds in directions favored by the policy of the state legislature, as, for example, the Robertson Law of Texas, which requires that three-fourths of the reserves on policies on the lives of Texas residents shall be invested in certain classes of Texas securities.

The first two of these objects are legitimate, although opinion may differ about the details. The third is not. Under a system of regulation by the states the *right* to prescribe investments of certain favored types as a necessary condition to doing business within the state is undoubted, but the exercise of that right is ill-advised. The effect of the Texas law was to cause the withdrawal from the state of many of the best companies in the country. This was not because there were no good investments to be had in Texas but because these companies felt that their investment policy should not be dictated by a state government which had no responsibility to the policyholders. If the available investments are suitable for the investment of life-insurance funds, there is little doubt that the companies will themselves seek them out. If they are not suitable, the companies should not be compelled to place their funds in them.<sup>3</sup>

<sup>3</sup> Some of the companies that withdrew from Texas because of the Robertson Law have since reentered the state. One reason for doing so was

Many of the state laws contain regulations about classes of securities in which investments may be made. Some of these laws prescribe the classes that are permitted and prohibit all others; others state the classes that are prohibited, all others being permitted. Possibly the best type of law is that which lays down a restricted list for a certain proportion of the funds, leaving the company entire freedom in the investment of the remainder and thus permitting it to avail itself of any particularly attractive opportunity.<sup>4</sup>

In addition to these laws, others regulating the investment machinery of the companies are to be found in certain states, such as laws requiring investments to be made in the corporate name, requiring authorization of all investments by the board of directors or by an executive committee, or prohibiting any director or officer from making profit from any investment or transaction in which he was concerned in behalf of the company. Some states prohibit investment in securities not legally issued or which do not bear interest, although the companies are not likely to seek illegal investments or to buy non-interest-bearing securities.

Although there are some legal restrictions on certain types of investments, such as real estate and stocks, very few restrictions exist on investment in bonds, other than on bonds secured by shares of stock. The most common statutory regulation of mortgage loans is that the amount of the loan shall not exceed a specified percentage (such as 50 or 60) of the value of the property upon which the loan is secured.

**Distribution of Assets.** The average distribution of assets among the different classes of investments in the principal companies, as well as the changes which have taken place therein during the period 1934 to 1954, may be seen from Table 11-1.

that practical difficulties arose in the transaction and administration of group insurance if the company was not licensed in all states since many large group policyholders had employees in Texas. Another reason is, of course, the amount of business obtainable in the largest state in the Union.

<sup>4</sup>C. W. Hobbs, "The Investment Laws Relating to Insurance Companies," *Proceedings of the National Convention of Insurance Commissioners*, 1921, pp. 170, 208.

TABLE 11-1. PERCENTAGE DISTRIBUTION OF ASSETS  
(49 United States companies having about 90 per cent of total assets of all companies)

Class of assets	Percentage of total at Dec. 31		
	1934	1944	1954
Government bonds:			
United States . . . . .	8.6	40.9	10.5
States, counties, and municipalities . . . . .	5.0	2.4	1.7
Canada* . . . . .	2.2	2.8	1.4
Other foreign governments* . . . . .	0.1	0.0	0.0
Total government bonds . . . . .	15.9	46.1	13.6
Other bonds:			
Railroads . . . . .	14.1	6.9	4.8
Public utilities . . . . .	8.8	13.3	16.5
Miscellaneous . . . . .	2.0	4.8	22.5
Total of other bonds . . . . .	24.9	25.0	43.8
Total of all bonds . . . . .	40.8	71.1	57.4
Preferred and guaranteed stocks:			
Railroads . . . . .	0.3	0.1	0.0
Public utilities . . . . .	0.8	0.3	1.1
Miscellaneous . . . . .	0.9	0.8	0.9
Total preferred and guaranteed stocks . . . . .	2.0	1.2	2.0
Common stocks:			
Railroad . . . . .	0.1	0.0	0.0
Public utilities . . . . .	0.1	0.1	0.3
Miscellaneous . . . . .	0.3	0.3	0.8
Total common stocks . . . . .	0.5	0.4	1.1
Total of all stocks . . . . .	2.5	1.6	3.1
Mortgages:			
Farm . . . . .	5.9	1.9	2.5
Other . . . . .	21.3	13.7	26.7
Total mortgages . . . . .	27.2	15.6	29.2
Real estate . . . . .	7.4	2.5	2.7
Policy loans and premium notes . . . . .	16.5	5.1	3.5
Cash . . . . .	2.8	1.6	1.3
Other assets . . . . .	2.8	2.5	2.8
Total admitted assets . . . . .	100.0	100.0	100.0

\* Including securities of all political subdivisions.

NOTE: A zero percentage indicates an amount less than  $\frac{1}{20}$  per cent of assets.

SOURCE: The Life Insurance Association of America.

*Bonds.* The proportion of assets invested in bonds of all types increased by nearly 50 per cent between 1934 and 1954. Bonds now form more than half of total assets as compared with about 41 per cent in 1934.

The volume of government bonds owned increased markedly during the Second World War, but since 1945, a substantial part of the funds in this investment have been transferred to other types of bonds and mortgages yielding a higher rate of return.

There has been a radical reduction in the proportion of railroad bonds owned and an increase in public-utility and miscellaneous bonds. One factor has been the increase in direct-placement investments which are of the same character as bonds. The reduction in the percentage of total assets invested in bonds (57.4 per cent in 1954 as compared with 71.1 per cent in 1944) has been due to the liquidation of government bonds after the war. Apart from government bonds the percentage has increased.

*Stocks.* Stocks make up only a small proportion of the total assets. The proportion of preferred and guaranteed stocks has remained stable except for a decrease during the war, while the proportionate investment in common stocks has about doubled in the period covered, partly because of liberalization of state laws and partly because of the higher yields obtainable.

*Mortgage Loans.* During the 1920s a large amount of life-insurance funds (up to nearly 18 per cent) was invested in farm-mortgage loans. During the depression of the early 1930s, many of these loans were defaulted, and the result was large transfers from mortgage loans to real estate. The percentage invested in farm mortgages declined every year until 1946 (when it was 1.5 per cent) but since then has been increasing. Other mortgages, now very largely FHA and GI loans, have followed a similar course. While the average investment in mortgages is now (1957) about 30 per cent of assets, many companies have a much larger proportion—50 per cent or more in some cases. The need for higher yields has been the principal factor in this trend.

*Real Estate.* The depression resulted in a large increase in the companies' real-estate holdings owing to foreclosure. Much of this has since been disposed of. The trend is again upward owing to

investments in housing projects and to purchases for income under recent liberalizations of state laws.

*Policy Loans.* Until about 1935 policy loans made up 10 to 15 per cent of the assets. The proportion reached in 1932, at the peak of the depression—17.9 per cent—was the highest on record. The ratio has steadily decreased since that time and for several years now (1957) has remained steady at about 3.5 per cent. Factors in the decrease have been the fall in the general interest rate, improved economic conditions, and the extent to which commercial banks have been making loans on life-insurance policies at low interest rates.

Policy loans involve no risk, since failure to repay or renew a loan involves cancellation of an equal liability. The companies, however, do not favor policy loans. Most such loans are never repaid, and in many cases a policy loan is merely the prelude to surrender of the contract. The average policy loan amounts to only a few hundred dollars, while thousands of loans of very small amounts are made for the purpose of paying premiums. The rate of expense involved in handling such small loans is necessarily very high, and in the case of the smaller loans the net yield is below the average yield on the company's investments as a whole.

Until 1938, the usual "specified interest rate" (as required by law) for policy loans was either 5 or 6 per cent. The net yield to the company was, however, for the reasons just stated, considerably below the rate charged. In 1938, because of a change in the New York law, there was a general change to a 5 per cent rate by companies which had been providing for a higher rate. However, this change was not generally made applicable to policies previously issued.

Although at least one company does so, it is generally considered impracticable to vary the rate of interest on policy loans in accordance with the amount of the loan. Such a variation would be entirely logical. The rate is related to the average amount of loan, subject to legal limitations. Loans at lower rates made by banks or other lenders are all of substantial amount. But there is no guarantee in that case of renewal of the loan at the same rate, whereas loans made by an insurance company are auto-

matically renewable at the same rate. Other advantages of borrowing from the company, which are offsets to the higher rate of interest, are the greater speed and privacy in negotiating the loan and the fact that many companies do not require the policy to be deposited with the company during the currency of a loan.

**Valuation of Assets.** In explaining the basis of the values that are placed on the assets for the purpose of a financial statement, a distinction must be made between (1) property other than stock-exchange securities and (2) stock-exchange securities.

*Property Other than Stock-exchange Securities.* Property other than stock-exchange securities comprises real estate, mortgage loans, policy loans, and cash. The value to be placed on such assets is normally the *book value*, i.e., in the case of real estate the *cost* (subject to any write-up or write-down which has taken place) and in the case of loans the *amount advanced*.

Real estate owned may or may not be actually worth the original cost or the amount currently shown on the books of the company. An *appraisal* could be made of the current value of real-estate holdings and the book values adjusted from year to year to agree with the appraised values. However, appraisals are merely estimates. It is simpler and less expensive to establish an offsetting liability in the form of a special reserve for revaluation of real estate, which is expected to cover any loss on sale. If the book values are definitely excessive, they should be written down; otherwise, the balance sheet will be incorrect or misleading. The same procedure may be applied to mortgage loans if the security is deemed questionable. Such special reserves are properly in the nature of contingency funds and should not be used merely as a means of adjusting asset values or of maintaining assets at artificially high values.

In connection with mortgage loans, an important question is the extent to which credit should be taken as an asset for interest due and unpaid. No credit should be taken in a financial statement for such interest unless it is expected that it will be paid or unless it is considered to be fully covered by the value of the property in event of foreclosure. Under the present New York statute, interest due or accrued on mortgage loans may be included as an asset

to an amount not exceeding the value of the property *less* the unpaid loan and *less* any delinquent taxes, but no credit may be taken in any event for interest overdue more than 18 months or for *any* overdue interest if any taxes are in default more than 18 months.

If unpaid interest is capitalized, i.e., added to the loan, it will appear in the company's annual statement as income in the same way as if it had actually been paid, thus increasing both the assets and the interest return thereon. Capitalization of interest is justified only where the security is sufficient to protect the additional loan.

*Stock-exchange Securities.* The most important questions in regard to valuation of assets arise in connection with bonds and stocks. In the case of listed securities there is available a daily market value, the stock-exchange price. If stock-exchange prices were used for the valuation of all stocks and bonds (comprising, perhaps, from one-half to two-thirds of a company's assets), the financial position as of any stated day might be quite different from the financial position a week earlier or a week later. Such a financial statement would have little real meaning. This has been recognized by the state insurance authorities, and most of the states have provided by law or by ruling for a method of valuation of a substantial part of the stock-exchange securities independently of current prices on the stock exchange. The law in the state of New York is typical and provides as follows: (1) no stock and no bond that is in default in either principal or interest or that is not amply secured and no "perpetual" bond (i.e., without maturity date) shall be valued above the market value, and (2) all other bonds, i.e., those which are amply secured and not in default, shall be valued on the basis of the purchase price adjusted so as to bring the value to par at maturity and so as to yield meantime the effective rate of interest at which the purchase was made. The values produced by the latter method are the *amortized* values. The process by which they are obtained will be explained later.

Stock-exchange securities are therefore divided into two groups: (1) *nonamortizable securities*, namely, all stocks, and all bonds which are not deemed to be "amply secured" or are currently in



default and which must be valued at market price, and (2) *amortizable bonds*, which are valued at the amortized values independently of market prices.

*Nonamortizable Securities.* Under abnormal conditions in the past, questions have arisen about the desirability of requiring the companies to use actual market prices for *nonamortizable* securities when these prices were abnormally low. In the years 1917 to 1921, and again from 1931 to 1933, resolutions were adopted by the National Convention (now the National Association) of Insurance Commissioners recommending the adoption of higher values for nonamortizable securities than the actual market prices on Dec. 31, and such higher values were approved by most of the state insurance departments in these years and put into use by most companies. These arbitrary "market values" were known as *convention values* or *commissioners' values*. The insurance laws in general specifically require *market values* for nonamortizable securities, and any such authorization of the use of values greater than the actual market prices involves an assumption of authority which may be open to question. For that reason, some states did not permit the use of these convention values. The situation thus was that the assets of a company were shown at values differing in some states from those in others.

The principle adopted in determining the convention values was to substitute for the actual market prices an *average* price based on the normal "range of the market." The use of such arbitrary convention values is obviously questionable. However, in the years when these special values were permitted, the use of market values would have represented a material understatement of the true values especially since most companies had no intention or need of selling at the temporarily depressed prices.

A satisfactory method of valuation of "nonamortizable securities" presents a difficult problem. On the one hand, the only available standard of value is the current price on the stock market, and any higher value may be considered unjustified. On the other hand, stock-market prices may be affected temporarily by many factors which have little relation to true value. The result of using market values of any particular date when prices are

unusually low will be to show an apparent loss in surplus which might be fully recovered a few weeks later. Efforts to arrive at a satisfactory solution of this problem have so far been unsuccessful. The answer may be the use of more stable, even if "artificial," values in conjunction with the maintenance of special investment reserves which would not be considered as surplus and, therefore, not subject to legal limitations.

*Amortizable Bonds.* The requirement that, to be eligible for valuation on the amortization basis, a bond must be "fully secured" does not in itself supply a definite basis for determining which bonds are amortizable and which are not. For some years that has been determined by the Committee on Valuation of Securities appointed by the National Association of Insurance Commissioners. This committee submits an annual report which sets forth in great detail the requirements for eligibility to amortization of various classes of bonds. Since these requirements are extremely complex and since they are subject to change from year to year, only a very general description of them can be given here. For full details, qualifications, and exceptions, reference must be made to the current committee report.

At the present time (1957) eligibility for amortization is determined, broadly speaking, as follows.

*Bonds other than Corporate Bonds.* Bonds (except perpetual bonds) are amortizable which are issued or guaranteed by the United States or Canada or political subdivisions thereof and which are legal for investment by insurance companies. Foreign-government bonds are amortizable provided they are deemed by the committee to be amply secured.

*Corporate Bonds.* Bonds (other than perpetual or income bonds) not in default are subject to two statistical tests to determine their amortizability.

The first test, which is applicable, in general, to all corporate bonds, relates to (1) the rating given to the bond by the recognized bond-rating agencies, (2) the proportion of net earnings available over a 5-year period to meet fixed charges, and (3) the ratio of "long-term debt" to total capitalization.

The second test, which distinguishes railroad bonds from other

corporate bonds, also relates to the net earnings available for fixed charges. In the case of railroad bonds, current assets must be not less than 125 per cent of current liabilities. For other bonds there are additional requirements about earnings and the relation between "working capital" and "long-term debt."

**Mandatory Security-valuation Reserve.** Because of the problems involved in the valuation of stock-exchange securities, a novel requirement was introduced a few years ago, namely, the mandatory security-valuation reserve. In the case of bonds which meet both of the tests described above, a reserve of 1 per cent of the total asset value must now be built up over a 20-year period. In the case of other bonds, and all stocks, a reserve of 20 per cent of the asset value must be so accumulated.

These reserves are, of course, in the nature of "contingency funds" to meet possible future losses, which is the purpose for which they are created. Since they would, presumably, be available for other purposes if any need or emergency arose, it would seem that they should actually be considered as surplus funds. However, since their amount is determined by regulation, and since their maintenance is mandatory (required), they appear in financial statements as a liability.

**Basis of the Amortization Method of Valuing Bonds.** The use of the amortized value for a bond depends on the assumptions (1) that the amounts of interest and principal will certainly be paid when due and (2) that it will not be necessary to sell before maturity.

A bond represents the right to receive certain payments at certain dates, and the *value* of these payments (assuming they will be made) is merely a matter of arithmetic. Bonds are purchased to yield a certain rate of interest, and their values on that basis are independent of current market conditions, which depend on current interest rates and on the supply and demand in the bond market.

The expression "amortized value" applies, strictly speaking, only to those bonds bought at a premium (above par), but it is also generally used in connection with bonds bought below par (at a discount) and refers in each case to the successive adjustments of the original cost (original book value) by which that value is re-

duced or increased by successive stages until it equals the par value on the maturity date.

Interest is usually payable semiannually, coupons being attached to the bond which are cut off and presented for payment as they become due. Thus a \$1,000, 5 per cent, 20-year bond represents an obligation to pay \$1,000 at the end of 20 years and \$25 at the end of each 6 months during the 20 years. If the price paid for such a bond is exactly \$1,000, the rate of interest yielded to a purchaser by the transaction is exactly 5 per cent (payable semiannually). If a higher price than \$1,000 is paid, the rate of interest actually realized will be less than 5 per cent, since part of the nominal interest (coupon) must be used to write off the amount paid in excess of par so that the book value of the investment may be reduced to \$1,000 at the date when the bond matures. In a similar manner, if the price paid is *less* than \$1,000, the actual rate of interest realized is greater than 5 per cent. In that case the book value of the investment is increased gradually until it reaches the full \$1,000 at the date of maturity, each increase in the book value being equivalent to an addition to the interest coupon.

When a bond is bought above par, the periodical reduction in the book value required by correct bookkeeping to make the book value at maturity exactly equal to the amount receivable is called *amortization*. The reverse process of writing up the book value of a bond bought below par (at a discount) is called *accrual of discount*.

The correct method of carrying out these processes is shown in the illustrations given below. Other systems, such as an arbitrary pro rata reduction or increase each 6 months, would be possible, but where the amortized value is referred to in state insurance laws or elsewhere the values as ascertained below are intended.

*Illustrations of Amortization and Accrual.* A bond for \$1,000 having 2 years to run<sup>5</sup> and upon which the nominal interest rate payable is 6 per cent (each semiannual coupon being for \$30) is purchased for \$1,018.81.<sup>6</sup> If the bond had been purchased for

<sup>5</sup> A short period is taken for purposes of illustration only to avoid unnecessarily lengthy calculations.

<sup>6</sup> A price has been chosen which involves an exact integral yield (5 per cent) in order to simplify the numerical illustration. Usually the yield is not an exact integer.

\$1,000, the rate of interest yielded to the purchaser would have been 6 per cent payable semiannually. As the purchase price was more than \$1,000, the actual yield is less and (as may be ascertained by inspection of a bond table) is in this case exactly 5 per cent. In other words, the purchaser has invested \$1,018.81 at 5 per cent, his investment being represented by the right to receive \$1,000 at the end of 2 years together with the right to receive \$30 each 6 months in the meantime. The present value of all these payments discounted at 5 per cent is \$1,018.81. The company has therefore a 5 per cent, not a 6 per cent, investment, and the successive amounts to be credited to interest will be 5 per cent of the amounts under investment, or book values.

The successive book values and the amounts of each coupon representing (1) interest and (2) repayment of premium are arrived at as shown in Table 11-2.

TABLE 11-2. ILLUSTRATION OF AMORTIZATION OF PREMIUM

Half-year period (1)	Book value at beginning of half year (2)	Coupon payable end of half year (3)	6 months' interest at 5 per cent on book value at beginning of half year (4)	Excess of coupon over interest required (amortization) (5)	Book value at end of half year (amortized values) (6)
1	\$1,018.81	\$30	\$25.47	\$4.53	\$1,014.28
2	1,014.28	30	25.36	4.64	1,009.64
3	1,009.64	30	25.24	4.76	1,004.88
4	1,004.88	30	25.12	4.88	1,000.00

The purchase price of the bond, \$1,018.81, is entered as the book value at the date of the investment. Six months later a coupon of \$30 is payable, but the interest on the investment at 5 per cent amounts to only \$25.47. The difference between \$30 and \$25.47 is treated as a repayment of principal. Consequently, the book value of the bond is reduced by \$4.53, making it \$1,014.28, at the beginning of the second period of 6 months. This value is written down at the end of each 6 months in the same manner, as shown in the table, until and including the date of maturity, when the

final coupon is exactly sufficient to provide the interest at the required rate on the book value at the beginning of the final half year together with an amount equal to the excess of the book value over the face amount of the bond. The successive values shown in column (6) in the table are the *amortized values* of the bond in question at the end of each period of 6 months.

The following is an illustration of the calculation of "amortized" values in the case of a bond bought below par. Here the book value is gradually increased until it is equal to the redemption value, or face amount, of the bond at the date of maturity.

A \$1,000, 4 per cent bond maturing in 2 years is bought for \$962.83. If the price had been \$1,000, the actual rate of interest yielded to the purchaser by the investment would have been 4 per cent. As a lower price was paid, the yield is greater than 4 per cent. The actual yield at the price stated is in this case exactly 6 per cent. Table 11-3 shows the successive book values on the amortization plan:

TABLE 11-3. ILLUSTRATION OF ACCRUAL OF DISCOUNT

Half-year period	Book value at beginning of half year	Coupon payable	6 months' interest at 6 per cent on book value	Amount added to book value at end of half year (accrual of discount)	Book value at end of half year (amortized values)
(1)	(2)	(3)	(4)	(5)	(6)
1	\$962 83	\$20	\$28 88	\$8 88	\$971 71
2	971 71	20	29 15	9 15	980 86
3	980 86	20	29 43	9 43	990 29
4	990 29	20	29 71	9 71	1,000.00

As before, the price paid for the bond, \$962.83, is entered as the book value at the date of the investment. When the first semiannual coupon of \$20 becomes due, it is insufficient to provide the necessary interest of 6 per cent on the amount invested for the period of 6 months, which is, as shown in column (4), \$28.88. The difference between the amount of the coupon and the amount required, \$8.88,

is obtained by increasing the book value of the bond.<sup>7</sup> Interest account is credited with the full amount necessary, \$28.88, of which \$20 is received in cash and \$8.88 by an increase in book value of assets. The book value of the bond at the end of the first half year will therefore be \$971.71. This procedure is continued, as shown in the illustration, until the date of maturity of the bond, when the amount of the coupon received, together with the difference between the book value of the bond and the amount actually received when it is repaid, exactly equals the necessary interest on the book value for the final period of 6 months. The \$1,000 which is received in redemption of the bond appears in the accounts of the company, therefore, as \$990.29 repayment of principal and \$9.71 interest. The values shown in column (6) are the amortized values of the bond at the periods shown.

The amortized value of a bond bears no necessary relation to the amount which could be obtained by the sale of the bond in the open market. Under this system it is assumed that the principal of the bond will certainly be repaid at maturity and that all the coupons will certainly be paid. The only elements entering into the valuation of a bond on the amortization plan are, therefore, the rate of interest involved in the transaction (i.e., the yield corresponding to the price paid), the amounts receivable (whether as principal or "interest"), and the length of time until these amounts are due. Where the bond is fully secured and no doubt exists about payment of principal or interest, no other factors need be considered.

Sometimes questions are raised about the propriety of valuing bonds at amounts which may be greatly in excess of or greatly below current market quotations. In view of the large bond holdings of the companies the subject is of importance. Where, as is always the case, a considerable amount is invested in bonds, the method of valuation may make a great difference in the financial position of the company and consequently in the amount of its surplus.

<sup>7</sup> The effect of this is the same as if the company had actually received \$28.88 instead of \$20. The additional \$8.88 anticipates part of the difference between the amount due at maturity (\$1,000) and the price paid (\$962.83).

Some of the reasons that have been advanced against the use of amortized values are as follows: (1) The true value of a bond is the amount for which it could be sold, i.e., the market value. (2) Amortized values may be considerably greater than market values over a long period of years. (3) In event of the necessity of selling, losses will be shown if amortized values are in excess of the market value. (4) The amortization system may encourage companies to retain bonds of which the amortized values are in excess of the market values and to dispose of those of which the market values are in excess of the amortized values, thus tending to weaken the position of the company. (5) The same bond purchased by different companies at different times and at different prices appears at different values in their balance sheets under the amortization plan, although the security is identical.

In answer to such arguments the following may be said: (1) The market value is no indication of the amount for which a large quantity of bonds may be sold and is therefore not, in any significant sense, the "true" value. (2) The fact that the amortized value may be above the market value over a series of years does not alter the fact that the market value is a matter of no concern to the company if the bond is fully secured and if there is no necessity of disposing of it before its maturity date. (3) Normally, the income of a life-insurance company exceeds its disbursements; if any unusually heavy disbursements are expected or if disbursements exceed income, the necessary expenditures can be foreseen, and the maturity dates of bonds may be so arranged as to correspond with such liabilities. (4) The argument that there will be a tendency to retain certain bonds and dispose of others is of little importance, as bonds are nearly always bought for permanent investment. (5) There is no inconsistency in the fact that different lots of the same security are carried at different values if the price paid or yield basis was different.

It should be remembered that the nature of life-insurance contracts is such as to require long-term investments. Life-insurance companies do not as a rule have to anticipate the necessity of realizing on their securities, and so long as they are satisfied that the coupons will be met and that the bonds will be duly paid at



maturity they need not concern themselves with current market prices. Market prices, in any case, are dependent on supply and demand, forces which are to some extent independent of intrinsic value. In extreme circumstances, such as arise when the Stock Exchange is temporarily closed, as it was at the outbreak of the First World War, the market value disappears entirely. By using the amortized value for bonds the same principle of valuation is applied to the assets as to the liabilities; i.e., to an amount *certainly* payable at a future date is applied the operation of interest or discount on the basis of a fixed yield determined by the price paid.

### CANADA

**Investments.** The investments of Canadian companies are governed by the Canadian and British Insurance Companies Act, 1932 (as amended in 1950), which provides that such companies registered with the Dominion government may invest in the following:<sup>8</sup>

- (1) *Government securities* of or guaranteed by
  - (a) Canada, Australia, Ceylon, India, New Zealand, Pakistan, the Union of South Africa, and the United Kingdom, or any province or state thereof, and Southern Rhodesia and the Republic of Ireland
  - (b) A colony of the United Kingdom
  - (c) The United States of America or a state thereof
  - (d) A country in which the company is carrying on business, or a province or state thereof, or a colony, dependency, territory, or possession thereof in which the company is carrying on business
- (2) *Municipal or school corporation securities* in Canada or elsewhere where the company is carrying on business, and securities guaranteed by a municipality in Canada or elsewhere where the company is carrying on business
- (3) *Bonds secured by annual payment or subsidy* of the gov-

<sup>8</sup> The list given here is not in full detail (see sec. 63 of the Act). Practically all Canadian life-insurance companies are registered with the Dominion Insurance Department.

ernment of Canada or of any province sufficient to provide for full payment of interest and principal

- (4) *Debentures secured by statutory charge* upon real estate, plant, or equipment, on which full interest has been paid regularly for at least 10 years prior to purchase
- (5) *Revenue bonds* of public authorities operating certain public enterprises in countries in which a company is carrying on business
- (6) *Securities issued or guaranteed by the International Bank for Reconstruction and Development*
- (7) *Bonds of a corporation fully secured by mortgage* on real estate, plant, equipment, or securities of the classes permitted as investments
- (8) *Equipment trust certificates* of Canadian and United States railways
- (9) (a) *Debentures* of a corporation which has paid in the previous 5 years dividends at least equal to the specified annual rate upon all its preferred shares or dividends upon its common shares in the amount required to qualify such shares
- (b) *Debentures* of or guaranteed by a corporation whose average annual earnings over the previous 5-year period were twice its annual interest requirements at the date of purchase and whose earnings in each of 4 of the 5 years were at least  $1\frac{1}{2}$  times such interest requirements
- (10) *Preferred shares* of a corporation which meet the dividend test set out in (9a) above
- (11) *Common shares* of a corporation which has paid in the previous 7 years dividends upon its common shares of at least 4 per cent of their average value as carried in the capital-stock account of the corporation during the dividend-paying year. Not more than 30 per cent of the total common shares or of all shares issued by a corporation may be purchased. A company must not purchase either its own shares or the shares of any other life-insurance company. A company may not invest more than 15 per cent of its total ledger assets in common shares

- (12) *Real-estate mortgages* in Canada or elsewhere where the company is carrying on business, up to 60 per cent of the value of the real estate, and larger mortgages if the excess over 60 per cent is guaranteed by the government or a government agency of the country in which the real estate is situated
- (13) *Real estate for the production of income* where a lease of the real estate is made to, or guaranteed by, a corporation with a dividend record as in (9a) above if 85 per cent of the amount invested is to be returned within 30 years, or the term of the lease if less. Not over 5 per cent of total ledger assets of the company may be so invested—see (18) below—and investment in any one parcel must not exceed  $\frac{1}{2}$  per cent of total ledger assets
- (14) *Investments or loans authorized by the National Housing Acts*
- (15) *Real estate* needed for use or occupancy and for reasonable expansion or acquired in satisfaction of debts or judgments
- (16) *Collateral loans* on securities of the classes permitted as investments
- (17) *Policy loans*
- (18) *Investments and loans not otherwise permissible*, including all forms of income-producing real estate, up to 3 per cent of total ledger assets. Investment in income-producing real estate under this clause and under (13) above must not in total exceed 5 per cent of total ledger assets, and in one parcel of real estate is not to exceed  $\frac{1}{2}$  per cent of total ledger assets

All securities must be valued for the purpose of the annual statement at values which, in total, do not exceed the sum of (1) the amortized values of securities issued or guaranteed by the government of Canada or of any province thereof or of the United Kingdom or of the United States of America and (2) the market values, as at a date not more than 60 days prior to the date of the statement, of all other securities. When the market values are unduly depressed, the Minister of Finance (not the Superintendent

of Insurance) may authorize the use of values in excess of market values but not exceeding the values used in the previous annual statement (or the book values in the case of securities purchased within the year). Values so authorized by the Minister of Finance correspond to "convention values" in the United States. In every annual statement the market values of all securities owned by the company at the date of the statement must be shown, including those of securities in the amortizable class.

### REVIEW QUESTIONS

1. State the three most important considerations in the investment of life-insurance funds.

2. Explain why the ability to convert an investment into cash at short notice is not generally an important consideration.

3. List the advantages and disadvantages (in relation to the considerations referred to in question 1) of the following types of investments: (a) real estate; (b) mortgage loans; (c) bonds; (d) stocks.

4. State the features which make FHA and GI loans attractive investments.

5. Discuss briefly the following statement: "Life-insurance funds, which are 'trustee funds,' should not be placed in speculative investments, such as real estate or common stocks."

6. What are the practical reasons which have prevented United States companies from investing any large part of their funds in stocks?

7. Briefly, what general changes took place in the period 1934 to 1954 in the relative proportions of investment in (a) bonds? (b) stocks? (c) mortgage loans? State some of the reasons for these changes.

8. In view of the high degree of security and the relatively high rate of interest payable, why are policy loans not generally considered an attractive or desirable investment for life-insurance companies?

9. Explain what is meant by (a) "amortizable securities"; (b) "non-amortizable securities." On what general basis are the values of each determined in a financial statement?

10. What were "convention values" of bonds and stocks? When were they used and why?

## Financial Statements

The purposes of a financial statement are (1) to show the *condition* of the company as of the date of the statement and (2) to summarize the financial *operations* of the company during the period covered by the statement. The first of these purposes requires a *balance sheet*, i.e., a statement of the company's assets and liabilities at the date of the statement, the excess of assets over liabilities being the company's *surplus*. The second purpose may be met by a *statement of income and disbursements*, as was formerly usual, or, as is now more common, by a *summary of operations*, in which the various items of income and disbursements are arranged in such a way as to show their effect in increasing or decreasing the company's surplus.

The principal financial statement of a life-insurance company is the one which it is required to submit each year to the insurance departments of all the states in which it does business. This statement is prepared on the *Convention Blank*. The Convention Blank is the uniform type of statement required and accepted by all states. It is in the form specified each year by the Blanks Committee of the National Association of Insurance Commissioners. The Convention Blank, the purpose of which is to give the state insurance departments the complete and detailed information which they require for proper supervision of all the companies' operations, is necessarily lengthy and complicated. It contains a great deal of technical information relating to such matters as policy reserves, and the information relating to assets, liabilities, income, and disbursements is extremely detailed. Such a financial statement is not suitable for the information of policyholders or

the general public, most of whom would not understand it, and it is not intended for that purpose. Every company, therefore, prepares each year a condensed and simplified financial statement which is included in the annual report to policyholders (or stockholders) and is used also in advertising or in other forms of publicity.

In this chapter the different items appearing in the usual financial statement in a company's annual report will first be discussed, after which a general explanation of the Convention Blank will be given.

## THE ANNUAL REPORT

### The Balance Sheet.

*Assets.* The values to be placed on various types of assets are very important. That subject was discussed in the previous chapter. The assets as shown in a financial statement may be broadly classified under the following heads:

- (1) Cash
- (2) Investments
- (3) Net premiums deferred and uncollected (as explained below)
- (4) Interest and rents due and accrued
- (5) Other miscellaneous assets

*Cash.* The cash consists of (1) actual cash held at the date of the statement in the company's home office and branch offices and (2) amounts on deposit in banks. Usually the annual report shows actual cash and cash in banks separately. It is necessary to maintain bank accounts in cities throughout the country where business is transacted. Actual cash is of relatively small amount, but cash in banks may amount to as much as  $\frac{1}{2}$  to 2 per cent of the total assets. Some part of this may be "at interest" (generally a very low rate).

*Investments.* The investments comprise (1) bonds, (2) stocks. (3) mortgage loans, (4) real estate, and (5) policy loans.

The values to be entered in the balance sheet for each of these classes of investments are determined as explained in the previous chapter; i.e., bonds, if fully secured and not in default are included at their amortized values; other bonds and all stocks are listed at current market values (as determined by the Valuation Committee of the N.A.I.C.); mortgage and policy loans are given at the amounts of loan unpaid; and real estate is listed at the value carried on the company's books.

The value shown for an asset may be effectively reduced by an offsetting entry on the liability page. An example is the mandatory security-valuation reserve,<sup>1</sup> which is considered as a liability and which, in effect, reduces the value of bonds and stocks, as shown on the asset page, and therefore the amount of surplus, by the amount of this reserve. Similar reserves are sometimes set up (as a liability) for mortgage loans and real estate.

Net Premiums Deferred and Uncollected. The item of net premiums deferred and uncollected (usually large) is probably understood by very few policyholders. Actually, it is not an asset in the sense of "something owned or in possession" but is, rather, an offset or correction of the principal liability item, the policy reserve.

In a previous chapter it was explained that, in general, the policy reserve is computed on the assumptions (1) that all premiums are payable annually and (2) that all premiums due on or before the date of the financial statement have been paid. These assumptions are made for simplicity in calculating the reserve, but neither assumption is true. Therefore, an adjustment of the policy reserve, as calculated, is necessary. This will be clear from the following examples. Consider a policy with the anniversary date Oct. 1 and under which premiums are payable semiannually. At Dec. 31 (if that is the date of the financial statement) only one semi-annual premium for the current policy year will have been paid. However, the reserve held is based on the assumption that the full (net) annual premium has been paid. The reserve may be (approximately) corrected by deducting one net semiannual premium. The effect will be the same if an asset of that amount is shown, described as a "net deferred premium."

<sup>1</sup> See p. 281.

Again, consider a policy under which a premium is due on Dec. 15 (whether an annual premium or otherwise). At Dec. 31, because of the days of grace, the premium has not been paid. However, the policy is in force, and the calculated reserve is based on the assumption that the premium has been paid. Here again a deduction from the reserve of the amount of the net premium is necessary, or (as is actually done) the amount is shown as an offsetting asset as a "net uncollected premium."

It should be particularly noted that this method of handling deferred and uncollected premiums does not result in an overstatement of the surplus since there is a (technical) overstatement of *both* assets and liabilities. It would be simpler and better to eliminate this "asset" and to make a corresponding deduction from the policy reserve as is, in fact, done in the Canadian form of annual statement described later.

**Interest and Rents Due and Accrued.** A complete statement of assets must include not only assets actually in possession but also assets represented by amounts due to the company, whether these have actually become payable and are not yet paid or are merely the accrued part of payments to be made later.

In the case of overdue payments, a good asset exists only if the payment is secured, as would usually be the case, for example, in connection with mortgage or other loans. The practice of taking credit in a financial statement for overdue interest, as explained in Chapter 11, is not uniform.

Accrued interest (where there has been no default) is a good asset. In the case of bonds, for example, if the bond was sold, the agreed price would be subject to addition of interest accrued but not yet payable.

The omission from the financial statement of overdue (but secured) interest or accrued interest would result in an understatement of surplus.

**Miscellaneous Assets.** These are chiefly (1) other amounts due to the company but not yet received, such as payments of reinsurance claims due from other companies where settlements are made, as is usual, only at monthly intervals and (2) amounts deposited with the company such as for future taxes or fire-insur-



ance premiums in connection with mortgage loans. In the latter case, where the amounts held are to be disbursed later, an off-setting liability items will be shown since the amount held is not actually an asset, i.e., not actually the property of the company.

*Liabilities.* The liabilities as they appear in the usual form of financial statement may be broadly classified as follows:

- (1) Policy reserves
- (2) Amounts held on deposit for policyholders and beneficiaries.
- (3) Dividends (to policyholders or stockholders) which have been allocated but are not payable until after the date of the statement
- (4) Death claims (and other policy claims) incurred but not yet paid
- (5) Other amounts due (or payable later) but unpaid
- (6) Amounts held for account of others
- (7) Special reserves considered as liabilities

**Policy Reserves.** Policy reserves are the amounts which, on the basis of the mortality (and other) tables and rates of interest assumed, are required, together with future net premiums payable, to provide the benefits included in the company's life-insurance and annuity contracts (as well as any other types of insurance, such as accident and health, which the company may transact). This includes the necessary reserves for the "special benefits," i.e., benefits in event of total and permanent disability or accidental death.

The policy reserve is by far the largest and most important of the liabilities of a life-insurance company. The amount of the reserve is calculated by the company's actuary and is verified by the actuaries of the state insurance department.

**Amounts Held on Deposit for Policyholders and Beneficiaries.** Amounts held on deposit include (1) amounts held by the company under optional modes of settlement, (2) dividends held under the deposit option, and (3) premiums paid in advance.

**Optional settlements.** The amounts included under this heading are for settlements "without life contingencies," i.e., those under which the principal sum is held at interest or where an income is

being paid only for a specified term of years. Supplementary contracts which "include life contingencies," i.e., those which provide for *life* incomes, are, in effect, life annuities. The reserves for these are determined by the actuary and are included as a part of the annuity ("policy") reserves listed above.

Dividends on deposit. Under most life-insurance, and many annuity, contracts the policyholder has the option to leave dividends with the company to accumulate at interest. In most companies a large amount is held under this option. The liability shown will include accrued interest (not yet payable) to the date of the statement.

Premiums paid in advance. For various reasons, many policyholders desire to pay premiums in advance of their due dates. This is not a contractual right, but most companies permit such advance payments to a limited extent, allowing a moderate discount. The amount of the total liability is the present value or discounted value, at the rate of interest allowed, of all the premiums so held and which have not yet become payable.

Dividends Allocated but Not Yet Payable. Where changes in the dividend scale are effective on Jan. 1, i.e., where the *dividend year* coincides with the calendar year, it is necessary for the company to determine its dividend scale for the following year some time before Dec. 31, since dividends on the new basis will become payable immediately thereafter. The directors must allocate the amount required for that purpose, which, as soon as action is taken, becomes a liability.

In some companies the "dividend year" is not the same as the calendar year. For example, the dividend year (i.e., when changes take effect) may run from May 1 to May 1. In that case no action would probably have been taken at Dec. 31 in regard to dividends payable after the following Apr. 30. Consequently, the actual liability at Dec. 31 would only be for dividends actually allocated and payable (under the existing scale) during the first 4 months of the following year. However, unless it was contemplated to pay *no* dividends in the next dividend year (which rarely happens), the omission of provision for dividends after Apr. 30 would not fairly represent the company's financial condition at Dec. 31—although

the statement would be technically correct. The usual procedure (and the one now indicated in the Convention Blank) is to make an estimate of the dividends payable in the following year but not yet actually apportioned.

In the case of stock companies, dividends to stockholders which have actually been voted (but not yet paid) are a liability. Until such dividends have been voted there is no liability.

Death (and Other Policy) Claims Unpaid. Death (or disability) claims cannot be paid immediately upon notification. The company must first determine whether the claim is a legitimate one on a policy which is in force and, if so, to whom payment is to be made. Consequently, at any date, there are always some claims "in process of settlement." In most of these the amount payable is not in doubt, but in others there may be a question of the company's liability (as when death takes place during the contestable period) or of the amount (as when the age appears to have been misstated). The liability shown reflects the amount expected to be paid when all requirements are completed.

In addition to such unpaid claims of which notice has been received, there will be other claims where death (or disability) has occurred before Dec. 31 but the company has not yet been notified. A true financial statement must make proper provision for such *incurred but unreported* claims, although only an estimate is possible. A reasonably accurate estimate can be made on the basis of the experience of prior years.

Other Amounts Unpaid. In addition to unpaid claims, liability will exist for other incurred but unpaid items, such as expenses (including commissions due agents), taxes, surrender values, and dividends. An important item under this head is the amount estimated to be payable for federal income tax in the following year on the income of the current year. Unpaid dividends are primarily dividends payable only in cash which, for one reason or another, remain unpaid.

Amounts Held for Account of Others. Amounts held for others include the deposits made by mortgagors to pay taxes, insurance premiums, etc., not yet due, as well as deposits made in connection with pending investments and other funds temporarily held

for various reasons, such as amounts due to reinsuring companies or reinsurance claims payable to other companies.

**Special Reserves.** The distinction between special reserves which are a *liability* and those which are merely earmarked *surplus* is a rather fine one. In fact, a special reserve for a particular purpose may be shown by one company as a liability (or, as it is said, "above the line" which, in the Convention Blank, divides liabilities from surplus) and by another company as a part of the surplus "below the line."

The security-valuation reserve, which is now required by law and the minimum amount of which is determined by gains or increases in value of nonamortizable securities, must be shown as a liability although its nature is essentially that of a contingency fund or surplus.

Because of the liberal terms of the optional settlements in policies formerly issued, many companies have established a *special reserve for unmatured settlement options*, i.e., for settlements which will become effective in the future under such policies. Such a reserve is much more clearly a liability and, in fact, might well be included as a part of the policy reserve. The same might be said of the special reserve generally set up by companies with group insurance in force to cover the "mass hazard" (catastrophe) risk. However, some companies treat the latter as surplus. The matter of the treatment of special reserves either as liabilities or as surplus is one about which more uniformity is desirable.

The difference between the total assets and the total liabilities is entered at the foot of the liability page ("below the line" in the Convention Blank) as *surplus*. The surplus consists of (1) special surplus funds (i.e., earmarked surplus nominally held for specified purposes although available, if needed, for any purpose), (2) capital paid-up (in the case of stock companies), and (3) unassigned surplus.

The unassigned surplus is sometimes called the "free surplus" or the "general contingency fund," but all funds not recognized as being exclusively held against specific liabilities are, in effect, free surplus.

**Income and Disbursements.** In considering income and disbursements it is necessary to note first the difference between a *cash basis* and an *incurred* (also called "accrual" or "revenue") basis. A simplified way of explaining the difference is to say that in a cash-basis statement the items of income and disbursements shown are those actually or effectively received or paid during the period covered (usually a year), while in an incurred-basis statement they are the amounts *applicable* to that year, whether or not actually received or paid during that year. For example, on the cash basis, the amount of interest shown is the amount actually received during the year. On the incurred basis, interest due or accrued (but not yet received) is included while interest due or accrued at the end of the previous year (and included in that year's income-accrual basis) and received in the current year is excluded.

Since the assets necessarily include amounts due to the company, although not yet received, and the liabilities similarly include amounts due from the company, although not yet paid, it is evident that the balance sheet is on an incurred or accrual basis. A cash-basis statement of income and disbursements would therefore not "tie in" with the balance sheets of the current and previous years. Consequently, the logical basis for a statement of income and disbursements is the incurred basis. If these were shown on a cash basis, additional statements of accrued and unpaid items, etc., would be necessary to reconcile the balance sheets of successive years.

*Income.* The income of a life-insurance company consists of

- (1) Premiums
- (2) Consideration for supplementary contracts and deposits
- (3) Investment income
- (4) Capital gains

**Premiums.** In addition to the regular premiums for life insurance, the special-benefits (disability and double indemnity) and annuities premiums include (1) dividends taken by policyholders in the form of additional insurance and (2) policy proceeds (as from death claims, matured endowments, and surrenders) left with the

company as the consideration for supplementary contracts involving life contingencies. These amounts are, in fact, life-insurance or annuity premiums. They appear both in income and in disbursements, as more fully explained in the following paragraph.

Supplementary Contracts (Not Involving Life Contingencies) and Deposits. A substantial proportion of all policy proceeds from death claims and other claims is left with the company under optional settlements not involving life contingencies (i.e., under the interest option or installment option). Although no cash payment by the company (other than the first installment) takes place at the time the claim is settled, the amounts (shown in the disbursements) for death claims, matured endowments, etc., would be understated if amounts left with the company were omitted. There is, in fact, a *constructive* receipt of the proceeds by the beneficiary or policyholder followed by a constructive receipt by the company. These amounts are properly treated as if they were first paid in cash and then immediately repaid to the company. They are therefore entered both as disbursements and as income, and since no cash payment is involved (payment of the first installment being treated as a separate transaction), the amount of the company's assets is not affected. Liabilities are, of course, increased by the amounts so deposited, just as they are increased by unpaid death claims.

The same situation exists with regard to dividends left with the company under the deposit option. In order to show the true total amount of dividends "paid," a dividend deposited must be included with other dividends among the disbursements and also entered as income.

Investment Income. Investment income comprises (1) interest on bonds, mortgage loans, policy loans, and any other type of loan, as well as miscellaneous interest such as may be received in connection with the restoration of lapsed policies or changes in plan of insurance; (2) dividends on stocks; and (3) rents from real estate owned, including the rent which the company charges itself for occupancy of property owned, such as its home office. The latter item is, of course, necessary in order to show a proper yield on the investment.

The amount of "interest" in the case of amortizable bonds is not necessarily, nor usually, the amount of the coupon. As explained in the previous chapter, the effective interest received is determined by the amount which should be added to or deducted from the "amortized value" of the bond and which, in effect, decreases or increases the amount of the "interest" (coupon).

In a financial statement, capital gains (or losses) from sales of assets are not treated as investment income (or losses), although such gains or losses affect the yield, but are shown separately.

**Capital Gains.** Capital gains arise chiefly from investments. If an asset is sold for an amount greater than the value at which it is carried on the books, there is a gain which is income to the company; i.e., the surplus is increased. Gains may also arise from revaluation. Nonamortizable securities are valued in the balance sheet at current market prices. Consequently, each year there will be a gain or loss in assets and surplus because of the change in the market values of nonamortizable securities. This is an unrealized gain (or loss), but, because of the resulting change in the amount of assets, it is necessarily treated as income (or disbursement) for the purposes of the financial statement.

Capital gains (or losses) may arise in various other ways. The values of certain assets (such as real estate) may be written up (or down) to reflect the true value more accurately, thus resulting in effective income (or disbursements). Another example is where a company transacts business in foreign countries and issues policies payable in foreign currencies. In that case all transactions are recorded on the company's books in dollars at a fixed rate of exchange so that gains (and losses) arise from the fluctuations in the rates of exchange at which transactions are actually effected.

*Disbursements.* Disbursements consist of

(1) Contractual payments under life-insurance and annuity contracts

(2) Payments from funds on deposit

(3) Dividends

(4) Expenses of operation

(5) Capital losses

**Contractual Payments.** Contractual payments are death claims (including additional accidental-death benefits), matured endowments, cash-surrender values, annuity payments (including payments under life-income optional settlements), and disability benefits (premiums waived and income payments).

The full amounts of claim payments will be included where the amount is left under an optional settlement. This will also be the case where a policy loan is deducted. In that case the disbursement shown of the full amount is balanced by the asset (loan) canceled and the net cash payment.

In the case of disability benefits, both income payments (made in cash) and premiums waived (not paid in cash) are included. Thus the waiver of premium is treated as if the premium were first paid to the company and then refunded. This procedure is necessary in order to show the proper amount of premium income.

**Payments from Funds on Deposit.** Payment from funds on deposit are chiefly the regular payments under optional settlements not involving life contingencies and the amounts of dividend deposits withdrawn or paid with death claims, matured endowments, or surrenders.

**Dividends.** If the dividend year is assumed to be the same as the calendar year, the total amount of dividends payable in any calendar year is derived from earnings during, or surplus existing at the end of, the previous calendar year. At the end of the calendar year a new allotment will be made (from surplus) for dividends to be distributed in the following year. On the incurred basis the new allotment is the applicable "disbursement" for the year. This procedure is the same as showing the previous year's allotment (all of which, including dividends used to purchase additional insurance, dividends deposited, and cash dividends which for any reason have not been paid, is treated as having been paid in the current year), adjusted for the increase or decrease in liability resulting from the new allotment.

**Expenses of Operation.** The principal categories of expenses are (1) compensation of employees, (2) compensation of agents, (3) general operating expense, (4) investment expense, and (5) taxes.

Since practically all companies operate on the agency system,



a substantial part of the total expenses usually consists of commissions and the cost of other forms of agents' compensation. General operating expense includes such items as rent, cost of equipment, and supplies, postage, and advertising. Expenses in connection with investments (including real-estate taxes and cost of maintenance) must be determined or allocated separately so that the net yield may be properly determined.

Taxes (other than real-estate taxes) consist chiefly of the federal income tax and state taxes on premiums, both of which are of substantial amount. Other taxes include miscellaneous license fees and social-security taxes.

**Capital Losses.** Capital losses, whether realized or unrealized, must be treated as disbursements for the reasons already explained in connection with capital gains.

**Statement of Operations.** The complications which arise in relating a cash-basis statement of income and disbursements to the balance sheets of two successive years, as well as the technical character of income and disbursements in an incurred- or accrual-basis statement, render these statement forms complex and obscure to the average policyholder, who is not particularly well informed on accounting procedures. In their annual reports to policyholders many companies, as indicated above, now omit a statement of income and disbursements in the form just described, showing instead a statement (or summary) of operations.

The actual *amount* of such items as premiums, expenses, investment income, and claims are not, in themselves, significant, except as an indication of the size of the operation. What is significant and important is the over-all effect of the year's operations on the company's financial condition, i.e., their effect in increasing or decreasing the amount of surplus. In other words, were the premiums sufficient to pay claims and expenses and to provide the necessary addition to policy reserves? Was the net investment income sufficient to provide the amount of interest which was required to maintain these reserves on the basis of the interest assumptions? In what other ways was the amount of surplus increased or decreased during the year?

A statement of operations answers these questions. Such a state-

ment is described below. The reader will be in a better position to understand it if we consider first the relation between the amount of surplus at the beginning of a year (calendar or other "financial" year) and the amount at the end of that year.

If, in any year, the assumptions which had been made about rates of mortality, interest, and expense were exactly realized (i.e., if the death and other claims incurred were exactly equal to those "expected," if the expenses were equal to the premium loadings, if the net investment income was just equal to the amount of interest required, if no capital or other miscellaneous gains or losses occurred, and if no dividends were allotted), there would be no change in surplus during the year. Normally, premiums of the year are more than sufficient for the purposes stated above; net investment income is usually more than the interest required, and there are capital gains (or losses) from sales, by revaluation, or from other sources. In addition, surplus may be affected by the creation, increase, or decrease of special reserves of the kind treated as liabilities and also by the allotment of dividends to policyholders or stockholders. Thus, the surplus existing at the end of the year will normally be different from the surplus at the beginning of the year.

The relation between the amounts of surplus at the beginning and at the end of the year may be briefly stated as follows:

*Surplus at Jan. 1:*

$$\begin{aligned}
 &\pm \text{Gains or losses from insurance operations (i.e., from favorable mortality and other similar sources, expense savings, and excess investment earnings or the reverse)} \\
 &\pm \text{Gains or losses from investment operations (i.e., from sale or revaluation of assets)} \\
 &- \text{Dividends allotted to policyholders or stockholders} \\
 &\pm \text{Changes in "special reserves" treated as liabilities} \\
 &= \text{Surplus at Dec. 31}
 \end{aligned}$$

The operation statements which will be found in the annual reports of the companies are not all in identical form, but all are based on the relationship between surplus at the beginning and at the end of the year as stated above. As an example, there follows an outline of a statement (somewhat condensed and simplified) taken from one company's annual report to policyholders. In this

case, the various gains and losses in surplus are first shown, then the net over-all gain, the surplus as at Jan. 1, and the surplus as at Dec. 31. All items of income and disbursements are on the incurred basis.

*Statement of Operations for 1955*

*Insurance operations*

- (1) Gross premiums of the year
- (2) Net premiums corresponding
- (3) Provision for expenses: (1) — (2)
- (4) Operating expenses (excluding investment expenses)
- (5) *Gain from expense provision*: (3) — (4)
- (6) Amount accumulated and available for payment of contractual benefits becoming payable in 1955
- (7) Actual contractual benefits which become payable
- (8) *Gain from insurance and annuity mortality, disability and policies terminated*: (6) — (7) (see below for further explanation)
- (9) Net investment income (gross investment income *less* investment expenses)
- (10) Amount of interest required (to maintain policy reserves on basis assumed and to pay guaranteed interest on funds deposited)
- (11) *Gain from interest*: (9) — (10)
- (12) Other miscellaneous gains from insurance operations
- (13) Total gains from insurance operations: (5) + (8) + (11) + (12)

*Investment operations*

- (14) Net gain from sale of assets
- (15) Net gain from change in value of assets
- (16) *Total gains from investment operations*: (14) + (15)

*Total gains from all operations*: (13) + (16)

*Application of total gains*

- (17) Increase in special reserves (classified as "liabilities")
- (18) Allocated for payment of dividends in 1956
- (19) Added to surplus

*Surplus*

- (20) Surplus funds at Jan. 1, 1955

(21) Increase per (19)

(22) Surplus funds at Dec. 31, 1955

In the foregoing statement, it will be noted that gains from *interest* are included with *insurance* gains rather than with *investment* gains, the latter including only *capital* gains from sale or revaluation. This is logical since the interest rate is one of the three factors which determine the amounts of premiums, namely, mortality, interest, and expense.

The only other part of the statement which calls for further explanation is lines (6) to (8) under the heading "insurance operations." For simplicity, line (8) combines gains from a number of different sources, all of which have the common characteristic that they arise out of contractual payment. This line includes (a) gain (or loss) from favorable (or unfavorable) *mortality* under life-insurance policies and annuities; (b) gain (or loss) from favorable (or unfavorable) *disability* experience under disability clauses; and (c) gain from *lapsed or surrendered policies*, i.e., the excess of the reserves held for such policies over the amounts paid out or used to purchase paid-up or extended insurance benefits.

Line (6) includes not only the "expected" or tabular" cost of insurance for life-insurance in force (and the corresponding amounts for disability benefits and annuities) but also the reserves held for policies lapsed or surrendered during the year and the amount of endowment policies maturing in the year. Line (7) includes, in addition to the regular contractual benefits actually incurred (death and disability claims, annuity payments made, and endowments matured), the amounts paid (or credited) on lapse or surrender.

There is no gain or loss in surplus from payment of a matured endowment since the amount paid is equal to the reserve held. These amounts are included in both lines (6) and (7); otherwise line (7) would not show the complete total of benefits paid.

### THE CONVENTION BLANK

In 1871, by securing the agreement of the states to adopt a *uniform* form of annual financial statement, the National In-

surance Convention of the United States (now the National Association of Insurance Commissioners) rendered one of its most valuable services to the insurance business. Each year the statement form is subject to revision by a committee of the association, but usually only minor changes are made. Special blanks are prepared for different classes of insurance. The one for life-insurance companies is called the *Life Blank* or, within the business, simply the *Convention Blank*.

The primary purpose of the Convention Blank, as already pointed out, is not to supply information to policyholders, stockholders, or the public but to supply the state insurance departments with the information they require to enable them to carry out their supervisory duties in a proper manner. Therefore, the blank contains much more detailed information than is either necessary or suitable for annual reports to policyholders or stockholders. However, the blanks as filed by the companies are available for inspection by anyone, and in this way complete publicity is given to every aspect of the companies' financial operations.

A radical revision of the Convention Blank (the first such revision in its history) was made effective in 1952. At that time two important changes were made. The first of these was the elimination of the former cash-basis statements of income and disbursements and the adoption in their stead of an accrual-basis *summary of operations*. The desirability of such a change and the reasons for it have already been explained in this chapter.

The second important change made in 1952 was the elimination of part of the original *gain-and-loss exhibit*. This exhibit is an analysis of gains and losses *in surplus* during the year. Other parts of the gain-and-loss exhibit which had been added in more recent years were retained and are described below. The old gain-and-loss exhibit (i.e., the part now eliminated) analyzed the increases and decreases in surplus during the year *by source* (i.e., "gains" or "losses" from mortality, interest, loadings over expenses, terminations, etc.). It is sufficient to say that this part of the blank had proved unsatisfactory and had given rise to a good deal of misconception and misunderstanding on the part of persons not qualified to interpret it properly. All the information which it supplied is

either directly obtainable or can be readily derived by a qualified person from the present blank.

A general description of the form of the Convention Blank which has been in use since 1952 follows. For this purpose it will be divided into three parts: (1) the financial statement, (2) the gain-and-loss exhibit, and (3) exhibits and schedules.

**The Financial Statement.** The financial statement consists of a balance sheet and a summary of operations. The statements of assets and liabilities are, in regard to the principal items, in summary form. Thus, in the statement of assets, the amount of each main category (such as bonds and stocks) is shown only in total, while in the statement of liabilities the policy reserves are similarly shown in total. Detailed breakdowns of these items are furnished in the exhibits and schedules.

The form of the summary of operations in the Convention Blank is somewhat different from the one illustrated above. It is divided into two parts, the first of which shows the total net increase in surplus from all sources except (1) capital gains, (2) increases or decreases in special reserves, and (3) dividends to stockholders. The general arrangement of this part is as follows:

(1) *Income* (accrual basis)

Premiums

Deposits

Net investment income

Miscellaneous

*Total*

(2) *Disbursements and additions to policy reserves* (accrual basis)

Contract benefits

Payment from deposits

Expenses and taxes

Interest paid

Increase in policy reserves and deposits

*Total*

(3) Net gains before dividends: (1) — (2)

(4) Dividends to policyholders

(5) *Net gain* (increase in surplus) *after dividends*: (3) — (4)

The second part of the summary of operations is a *surplus account*, which includes capital gain or losses, changes in special reserves, and dividends to stockholders. The general arrangement of the surplus account is shown below (in somewhat simplified form):

*Debit Side*

Surplus at Jan. 1

Net insurance gains, after dividends: [line (5) above]

Net capital gains (if the net is a gain)

Decrease in special reserves (liabilities)

*Total*

*Credit Side*

Dividends to stockholders

Net capital losses (if the net is a loss)

Increase in special reserves (liabilities)

Surplus at Dec. 31 (to balance)

*Total*

**The Gain-and-loss Exhibit.** The gain-and-loss exhibit also consists of two parts: (1) an analysis of gains in surplus by *lines of business* and (2) an analysis of increases or decreases in policy reserves during the year. The latter is a purely technical statement for the use of the actuaries of the state insurance departments in verifying certain gains or losses and for other purposes. To discuss it would be beyond the scope of this book.

The analysis of gains in surplus by lines of business is merely a breakdown of the first part of the summary of operations. It shows how the total net gain [line (5) above] is distributed among the different lines of business, namely, life insurance (ordinary, industrial, and group), annuities (individual or group), the "special benefits" (disability and "double indemnity"), and accident and health insurance (where the company, as is frequently the case, also transacts that line of business).

There is now no analysis of gains and losses in surplus *by source*. Such figures can be derived from the present Convention Blank, using the second part of the gain-and-loss exhibit (analysis of changes in policy reserves) referred to above, but to do so requires actuarial procedures.

**Exhibits and Schedules.** For the most part, the exhibits and schedules provide analyses, breakdowns, or further details in regard to some of the items which appear only in total in the financial statement. It is not necessary to describe or discuss the exhibits and schedules in detail.

Among the *exhibits*, the more important are those furnishing detailed or classified information about (1) premium income, (2) investment income, (3) capital gains and losses, (4) expenses, (5) taxes, (6) policy reserves, (7) policy claims, (8) life insurance issued, terminated, and in force (the "policy exhibit") and (9) annuities issued, terminated, and in force (the "annuity exhibit"). At the end of the exhibits there is a series of general interrogatories and a statement of the company's business in the state in which the report is being filed (i.e., numbers and amounts of policies issued, terminated, and in force, together with a statement of premiums collected and claims incurred in the state).

The most important *schedules* are those relating to real estate, mortgage loans, and securities (bonds and stocks). These three schedules show, in great detail and in various classifications, the amounts owned at the end of the year and the purchases and sales during the year. Other important schedules show details of (1) bank balances at Dec. 31, as well as the *largest* balance in each bank during each month of the year, (2) resisted claims, (3) expenses incurred in connection with legal matters or appearances before legislative bodies, etc., and (4) proceedings at the last annual election of directors.<sup>2</sup>

## CANADA

In Canada, in the case of companies registered under the Canadian and British Insurance Companies Act. i.e., nearly all Canadian companies as well as foreign companies (including many

<sup>2</sup> The sole purpose of the Convention Blank is to supply the supervising authorities with information which they need or want. Therefore, it has been described only in outline and in general terms. The reader who wishes to study it in more detail can obtain a copy of the current blank, either from the insurance department of his state or from the home office of one of the companies.



United States companies) doing business in Canada, supervision of *financial* matters is exercised by the Dominion government rather than by the separate provinces. All such companies are required to file an annual statement on the Dominion Blank with the Department of Insurance in Ottawa.

The Dominion Blank is, in its essential features, very similar to the Convention Blank. It consists, broadly, of (1) a financial statement, (2) a gain-and-loss exhibit, and (3) exhibits and schedules, which are, to a considerable extent, comparable to those in the Convention Blank. There are, however, many points of difference, some of which are important. These are briefly described below.

**Financial Statement.** As in the Convention Blank, the Dominion Blank financial statement consists of statements (in total) of assets and liabilities, a summary of operations (the *revenue account*) and a surplus account (the *reconciliation of surplus*). One difference is that net deferred and uncollected premiums are not shown as an asset but are (as they should be) deducted from the policy reserves.

The Dominion financial statement also includes a breakdown of the assets and operations *by funds*: *participating fund*, *nonparticipating fund*, *shareholders fund*, etc. This part of the statement consists of (1) an analysis of revenue account by funds, (2) a *reconciliation of funds* (showing changes during the year), and (3) a *summary of funds and amounts owing by the company* at Dec. 31, which accounts for the allocation of the total assets by funds. A statement of the methods used in apportioning income and disbursements to the several funds is required. This applies also to the gain-and-loss exhibit.

**Gain-and loss Exhibit.**<sup>3</sup> As in the Convention Blank, the gain-and-loss exhibit of the Dominion Blank is an analysis of the revenue account (summary of operations) by lines of business. One important difference is that the analysis is divided into participating and nonparticipating business, a division which is not made in the Convention Blank). Another difference is that the special

<sup>3</sup> The Dominion Blank does not use the expression "gain-and-loss exhibit." The title is "analysis of revenue account by line of business."

benefits (disability and double indemnity) included in life insurance policies are not shown separately in the Canadian blank.

**Exhibits and Schedules.** For the most part, the exhibits and schedules follow the same general lines as in the Convention Blank, including, for example, exhibits of premiums, investment income, claims, expenses, and detailed schedules relating to real estate, mortgage loans, bonds, stocks, and bank accounts.

Some of the more important requirements of the Dominion Blank which are not included in the Convention Blank are as follows:

(1) A statement (with the necessary figures for verification) of the *average net rate of investment income earned during the year*.

(2) A statement of reinsurance in companies not registered with the Dominion.

(3) A *certificate by the actuary* certifying not only that the reserves shown are at least equal to those required by law but also that, in his opinion, they make good and sufficient provision for all unmatured obligations of the company. This is an important and valuable feature of the Dominion Blank.

(4) An exhibit of disability benefits in force—corresponding generally to the “policy” and “annuity” exhibits of the Convention Blank.

(5) An exhibit of business (amounts, premiums, disbursements) by provinces.

(6) A schedule of assets and liabilities by currencies. This is important in Canada because many Canadian companies (unlike United States companies) transact a substantial volume of business in Great Britain and other foreign countries.<sup>4</sup>

(7) A *statement of life-insurance business transacted outside Canada* (and included in the company’s annual statement). This statement comprises assets, liabilities, premiums, dividends to policyholders, claims, and exhibits of policies and annuities issued, terminated, and in force.

<sup>4</sup> Many United States companies, of course, have offices and transact business in Canada, but very few do so in other countries.

## REVIEW QUESTIONS

1. What are the two chief purposes of a financial statement?
2. What are the main divisions of the financial statement of a life-insurance company? Give a general outline of the contents of each of these divisions.
3. What is the difference between the "cash basis" and the "accrual basis"? Give examples relating to specific items in the statement.
4. Explain the asset item "net deferred and uncollected premiums."
5. How would the following transactions appear in the annual statement? (a) Death claim settled by issue of a supplementary contract (optional form of settlement elected); (b) Current dividend applied under the option to purchase additional insurance.
6. Define "surplus." In determining the amount of surplus how may "special reserves" be treated? Give examples.
7. What does a "statement (or summary) of operations" show? Give a general outline of such a statement.
8. What is the Convention Blank? What is the purpose of the blank?
9. Give a general outline of the information called for by the Convention Blank.
10. Specify some of the principal differences between the Canadian Dominion Blank and the United States Convention Blank.

## Disability Benefits and Double Indemnity

### DISABILITY BENEFITS

The inclusion in life policies of provision for certain benefits payable in event of the total and permanent disablement of the insured is one of the most important modern developments of life insurance. The origin of such provisions was the idea that there should be some protection against loss of earning power through disability because of which the insured might be unable to continue premium payments, and the disability provision originally consisted of a waiver of premium payments in the event of the total and permanent disability of the insured. A waiver-of-premium provision operative only if the insured is actually disabled both *totally and permanently* is inexpensive because of the remoteness of the contingency insured against. Such a provision is generally admitted to be appropriate in a life-insurance contract. It is true that it introduces into the life policy the element of insurance against a contingency other than that of death, but only to the extent that the happening of that contingency directly affects the continuation of the life policy.

Practically all companies adopted the waiver-of-premium clause. The majority did not, however, confine themselves to a waiver-of-premium clause effective only in event of both total and permanent disablement but gradually developed and extended the disability coverage. The extension of coverage consisted in (1) enlargement of the amount of disability insurance by the intro-

duction first of annual and later of monthly *income payments* in addition to waiver of the premium and (2) widening of the protection by the adoption of a definition of "total and permanent disability" which brought within the scope of the coverage many disabilities of a temporary character. These extensions added very considerably to the cost of the benefits, requiring substantial additional premiums, and introduced a new element into the business which gave rise to many serious problems. The administration of this type of business is much more difficult and costly than the administration of a purely life-insurance business and has become an important part of the operation of many companies.

**Development of Disability Benefits in the United States.** In 1896 the Fidelity Mutual Life Insurance Company of Philadelphia issued a policy containing provision for waiver of premium or, alternatively, settlement by annuity, in event of total and permanent disability. In 1906 the Travelers Insurance Company of Hartford adopted the waiver-of-premium provision. It was not, however, until about 1910 that American companies generally began to adopt the waiver-of-premium clause. Policies containing such a provision were in use in certain countries in Europe more than 30 years earlier, and a similar form of insurance was sometimes found in American fraternal orders at about the same time.

The first extension of the disability clause consisted in the addition of a provision for immediate payment of the sum insured in equal annual installments over a period of years, the unpaid balance of the policy becoming payable in event of subsequent death before all the installments had been paid. Sometimes the policy gave the insured the *option* of having the premium waived during disability (the full sum insured being payable at death) or of having the policy made payable at once in equal installments payable over a period of years, such settlement being unaffected by the insured's subsequent death before all the installments had been paid. Comparatively little insurance was issued with this form of disability benefit, under which the "income payments" were payments on account of the face amount of the policy, which was thus reduced by each such payment.

The next important development was the provision for an

income benefit *in addition to* waiver of premiums. The income was payable for life (or until recovery) or to the maturity date in the case of endowment policies. The income payments were not deductible from the sum payable at death. This additional income benefit was at first generally made payable annually. It usually commenced not earlier than the end of the policy year in which disablement occurred. The amount of the annual income was generally 10 per cent of the face amount of the policy i.e., \$100 for each \$1,000 of insurance. A little later (about 1920) some companies began to issue policies which provided for a monthly disability income of 1 per cent of the face amount of the policy, with payments commencing at once, upon proof of total and permanent disability. This was, until 1932, the standard disability income benefit, i.e., \$10 monthly income for each \$1,000 of life insurance, together with provision for waiver of premiums.

*Ninety-day Clause.* An important and far-reaching modification of the disability provision was introduced about 1921. This was the adoption by many companies of the *90-day clause*, which may fairly be said to have revolutionized the whole system of disability benefits. The 90-day clause originated in the frequent difficulty of determining whether an admittedly *total* disability was *permanent*. Usually there is little difficulty in determining whether disability is total. With regard to the permanency of disability there must frequently be doubt. Claims arise from many causes which do not necessarily result in permanent disability, and it may be impracticable for the company to refuse payment of benefits because of a mere possibility of recovery. The solution of this difficulty was a modification of the definition of "permanent" disability by providing that total disability would be *presumed* to be "permanent" *during its further continuance* when it had continued for a period of 3 months. Subsequent experience showed that 3 months was too short a period.

To establish a claim under the 90-day clause, it was only necessary to prove that disability was total and that it had continued for 90 days. This could be the case even where the disability was such that it was probably not permanent. It was not necessary that in all cases disability should have continued for 90 days before a

claim could be made. If the disability could be shown to be, in fact, permanent (as, for example, in case of total blindness), a claim could be established at once.

A clause of this nature, providing for presumption of permanency after total disability has lasted for a specified time, materially increases both the coverage and the cost as compared with a true "total-and permanent" clause. It introduces, to some extent, insurance against *temporary* total disablement, thus radically altering the nature of the coverage.

Up to the time of the introduction of the 90-day clause (and for some years thereafter), the only basis available for the calculation of premium rates and reserves for disability benefits was Hunter's Disability Tables. These tables, comprising the rate of disability, or probability of becoming totally and permanently disabled, and the rate of mortality among disabled lives, were based largely on the experience of fraternal orders. The fraternal orders operated under conditions somewhat different from those facing life-insurance companies; but, to the extent that the benefits depended on the contingency of total and permanent disability, conditions were sufficiently comparable to give a fairly accurate basis for calculation, pending the accumulation of the companies' own experience. It was to be expected that, since the companies operated on a purely commercial basis, their experience would be less favorable than that of the fraternal orders, and it was therefore desirable to obtain information on the company experience as soon as possible.

The introduction of the 90-day clause complicated the situation. No satisfactory basis existed for determining appropriate premium rates for this type of benefit, and the rates adopted were, in fact, generally too low.

In 1926, the Actuarial Society of America published a report on the disability experience of 29 American and Canadian companies. This report, while important, was not of great practical value because of the very limited amount of experience available under current forms of coverage, especially in regard to the rates of death and recovery among those disabled. This was particularly true in regard to the 90-day clause, which had been in operation

for only a little over 2 years and under which, therefore, the experience was very meager. The experience under true total-and-permanent coverage was, however, of value to the companies which had retained that form.

The tables given in the report were based on the experience under policies providing a monthly income in event of disability. The experience was divided into three classes, as follows:

*Class 1.* Policies without a 90-day clause

*Class 2.* Policies with a 90-day clause in companies having a strict practice in admission of claims

*Class 3.* Policies with a 90-day clause in companies having a liberal practice in admission of claims

In Class 2, the results were inconsistent, owing to the inadequacy of the data available. The tables based on the Class 3 data became the standard for premium rates and reserves for disability benefits with a 90-day qualifying period and, with suitable adjustments, for other (longer) qualifying periods adopted later.

The cost of disability benefits depends not only on the rate of becoming disabled but also on the claim value, i.e., the reserve required to provide the payments under a disability claim. The amount of this reserve depends on the rates of death and recovery among disabled lives. The joint experience showed a higher rate of disability than by the Hunter Table—much higher for policies with a 90-day clause—but a lower *claim value* because of higher rates of termination through either death or recovery in the early years following disability.

Table 13-1 shows the comparative disability rates. The table indicates (1) the very high disability rate in the companies as compared with the Hunter Table; (2) the greatly increased disability rate under the 90-day clause; (3) the relatively high disability rate at low ages.

The relative claim value (at time of disability) is shown in Table 13-2. This table shows that, under Class 1, while more claims occurred (were admitted) than indicated by the Hunter Table, a



TABLE 13-1. RATE OF DISABILITY PER 10,000  
(Number out of 10,000 at age stated becoming totally and "permanently"  
disabled in a year)

Age	Hunter Table (no 90-day clause)	Class 1 (no 90-day clause)	Class 3 (90-day clause)
20	5	17	44
30	6	17	41
40	8	20	47
50	17	29	76

TABLE 13-2. VALUE (AT 3 PER CENT) OF CLAIM OF \$10 MONTHLY

Age	Hunter Table (no 90-day clause)	Class 1 (no 90-day clause)	Class 3 (90-day clause)
20	\$623	\$433	\$246
30	955	656	356
40	966	671	431
50	876	642	449

greater number of deaths and recoveries reduced the average cost of a claim. It shows that with a 90-day clause (Class 3), the claims are of an entirely different character, being much more numerous but of a much shorter average duration.

The combined effect of both factors when brought together in the premium rate is shown in Table 13-3.

TABLE 13-3. NET ANNUAL PREMIUMS (3 PER CENT) FOR MONTHLY  
INCOME OF \$10 DISABILITY COVERAGE TO AGE SIXTY

Age	Hunter Table	Class 1	Class 3
20	\$0 80	\$1 30	\$1 99
30	1.07	1.54	2.51
40	1.48	1.85	3.30
50	2.20	2 36	4.48

Subsequent experience has indicated the necessity of still higher *net* premiums, while the high expense of this class of business requires, in addition, very substantial loadings.

The publication of the companies' experience drew attention to two things: (1) the necessity for generally higher premium rates than those in use and (2) the desirability of a greater degree of uniformity in the conditions under which benefits were to become payable. The many changes and the wide variety of contracts and practices had rendered it impossible, even after the transaction of disability insurance for about 14 years, to produce standard disability tables of comparable practical value to standard mortality tables.

**Standard Provisions.** In 1928 committees were appointed, first by the superintendent of insurance of the state of New York and later by the National Convention of Insurance Commissioners (which had adopted a resolution favoring uniform disability clauses), to consider recommendations for standard provisions for total-and-permanent-disability benefits. The two committees acting in cooperation agreed on certain recommendations, which were later adopted by ruling or otherwise in a number of states and which became the general basis for the contracts of the majority of the companies.

Although a few years later disability coverage underwent some radical modifications, a somewhat detailed consideration of these "standard" provisions will be valuable in providing a general description of the scope and character of the disability benefits. A large amount of insurance containing these provisions is outstanding. The standard provisions consist of certain provisions which are *required*, others which are *permitted*, and still others which are *prohibited*. It will be noted that considerable variation is permitted in certain respects, so that these provisions cannot properly be described as "standard."

**Definition of Disability.** No benefits may be allowed unless for disability which is *total and permanent*. The definition of total disability is "incapacity (resulting from bodily injury or disease) to engage in any occupation for remuneration or profit." Total disability which has been continuous for a period specified in the

policy (not less than 4 months or more than 1 year) is to be *presumed permanent*. Thus, in the most fundamental respect, the scope of the coverage, uniformity was not required. A company could adopt any period from 4 to 12 months for establishing presumption of permanency. As a matter of fact, practically all companies adopted the minimum period of 4 months, which was the standard *waiting period* until 1932, when there was a general change to a waiting period of 6 months.

The definition of *total* disability, "inability to engage in *any* occupation for remuneration or profit," is a strict one. Taken literally it would exclude all but a few extreme forms of disablement. Such a definition cannot, in practice, be interpreted literally, and it is not intended that it should be. A less rigorous definition, however, would greatly increase the danger of an excessive claim rate. In wording the provision in this strict way the committees also intended to eliminate the "professional man's policy," under which total disability was defined as inability to follow the *customary* occupation. This type of contract had been adopted by some companies and was particularly likely to create administrative difficulties.

*Specified Disabilities.* The clause *may* provide that certain forms of disablement shall be deemed to be *total* disability. These are the entire and irrecoverable loss of the sight of both eyes or the severance (or entire loss of use) of both hands or both feet or of one hand and one foot. These disabilities are generally called the "specified disabilities." Prior to the adoption of the standard provisions it was usual for the policy to provide that any of these specified disabilities would be regarded as constituting both total and permanent disablement. Thus, payment of benefits would begin at once, whereas, under the standard clause, existence of a "specified disability" implies only *total* disability and the waiting period of at least 4 months must elapse before such disability is also presumed to be permanent. On the other hand, many of the old clauses required the "loss of" rather than the "loss of the use of" the members referred to. For example, a case of total paralysis of an arm and a leg would be an indisputable claim under the standard clause (when it had lasted at least 4 months) but not necessarily so under

some of the old clauses. Most claims arising as specified disabilities would doubtless be admissible under any clause.

*Limiting Age.* Disability coverage expires at attained age sixty. The only exceptions allowed to this rule are in the case of endowment policies maturing at ages from sixty-one to sixty-five and deferred annuities commencing at these ages. In these cases the disability income must cease at the maturity age (instead of continuing for life) if disability began after age sixty. Usually the disability income under endowment policies is payable for life (in event of disablement before age sixty), but for special forms of deferred annuities an income ceasing when the regular annuity commences is more appropriate and more usual.

It is fundamental in disability insurance that coverage should be limited and the period of old age excluded. Otherwise the cost would be prohibitive. The annual rate of disability increases very rapidly after about age sixty, while above age sixty-five it is often difficult to distinguish between disability and the normal infirmities of old age.

Prior to 1932 the limiting age in nearly all companies was sixty, but a few companies provided coverage up to the age of sixty-five. With the adoption of the standard provisions sixty became the limit in practically all companies except for the few classes of policies and annuities referred to above. In 1932 there was a general change in the age at which coverage ceased from sixty to fifty-five, except where the contract provided only for waiver of premium.

Where disability occurs before attainment of the limiting age, premiums falling due after that age and during continued disablement are waived, and income payments, if any, continue for life, and not only up to the stated limiting age. Originally, it was usual to provide in the case of endowment policies that the disability income ceased at the maturity date of the policy, but later such policies generally provided for a *life* income in event of disability, the general practice up to 1932. The cost of a life income is, naturally, much greater, particularly in the case of endowments maturing at the lower ages. The extent of the difference may be seen from Table 13-4.

TABLE 13-4. NET ANNUAL PREMIUM. DISABILITY INCOME OF \$10 MONTHLY. CLASS (3)—3 PER CENT. COVERAGE TO SIXTY

Age at issue	15-year endowment		30-year endowment	
	Income to maturity date	Income for life	Income to maturity date	Income for life
25	\$0 80	\$1 46	\$1 34	\$1 93
35	1 09	2 15	2 26	2 73
45	1 98	3 64	3 46	3 64

*Notice of Disability and Proof of Continuance.* The policy must provide that written notice of a claim shall be given *during* disability, i.e., not after the death or recovery of the insured. This is a very desirable provision for the protection of the company since evidence of the degree of disability may be difficult to obtain after it has ceased by death or recovery. It is also very desirable from the company's point of view that claims be made promptly and that there not be an indeterminate liability for disabilities no longer existing. The standard provisions require the policy to provide that failure to give notice during disability shall not invalidate a claim if it can be shown not to have been reasonably possible to give it and if notice is given as soon as reasonably possible. In event of a dispute on these points the company would, as a rule, have but a small chance of being able to protect itself against an improper claim where notice was withheld and where the insured claimed that it was not "reasonably possible" for him to give it.

The standard provisions do not specify any particular requirements for proving the existence or continuance of disability. They specifically permit "any other provision not inconsistent with these requirements which may be necessary to the efficient administration of the coverage provided and the protection of the interests of the insurer or the insured," and the committees stated that this would include a provision requiring proof of disability in any specified manner and proof of continuance, including medical examination of the insured, at reasonable intervals.

Proof of continuance is just as necessary as proof of original disablement. Formerly, when the contingency insured against was true total and permanent disability, there was less need for proof of continuance, although even under those conditions it could not be dispensed with. It was, in fact, at first usual to require that proof of continuance be furnished every time a premium was waived or an income payment made. Later this practice was modified by providing that proof would not be required oftener than once a year after the first year. With the introduction of monthly income payments and the 90-day clause, and the consequent inclusion in the coverage of purely temporary disabilities, a more frequent review of disability claims became essential.

The review of claims is an important part of the administrative work in connection with disability benefits. Claimants do not always announce their recovery, and unless the company is vigilant it will pay out far more in claims than it is liable for. On the other hand, it is undesirable and, in many cases, unnecessary to make frequent and expensive inspections and examinations.

If recovery takes place, payment of the benefits ceases, and the insured must resume payment of premiums. Under the old "total-and-permanent" provisions, such a recovery would show that the disability had not, in fact, been permanent, but no refund of benefits paid or premiums waived is required in such cases. Under the 90-day clause (or similar clauses with other waiting periods), recovery is a normal incident, since the word "permanent" has a purely technical significance.

Even under a true total-and-permanent provision, the rate of recovery from disability is substantial. Under the modern type of clause, recoveries are much more numerous, since, out of all claims, probably at least 80 per cent are in respect of temporary and not permanent disabilities. Many claims continue only long enough to qualify for payment, while the recovery rate continues to be very high until disability has existed for over a year.

*Amount of Benefits.* It has already been explained that, at the time the standard provisions were proposed, the customary benefits in event of disability were either (1) waiver of premiums falling due during disability or (2) waiver of premiums and a monthly

income for life of \$10 for each \$1,000 of insurance. Variations existed, however, in certain details.

A few companies had adopted a special provision for "increasing disability benefits," under which the monthly income per \$1,000 of insurance was increased from \$10 to \$15 after 5 years' continuous disability and from \$15 to \$20 after 10 years' continuous disability, remaining at the latter sum thereafter. Such an arrangement is unsound. Experience shows the desirability (from the company's point of view) of decreasing rather than increasing the benefit in cases of prolonged disablement. Generally speaking, the rate of claim will increase if the benefit is increased, because of the greater inducement to claim. Similarly, the recovery rate will definitely be reduced if it is to the insured's financial advantage to remain disabled. In some types of disabilities it is difficult or impossible to prove that recovery has taken place. Under the standard provisions disability income payments exceeding \$10 monthly per \$1,000 of face amount are forbidden.

The most important regulations introduced by the standard provisions relating to the benefits payable are (1) that no income payments may be made for any part of the first 3 months of total disability, (2) that no income payments may be allowed retroactively for a period of more than 1 year prior to notice of claim, and (3) that, in event of delay in giving notice, retroactive waiver of premium *must* be granted up to at least 6 months prior to receipt of notice.

In all these respects competition resulted in great variations in practice. Some companies adopted provisions of extreme liberality, providing for the payment of retroactive benefits without any limit of time and for payment of income benefits in respect of the whole of the waiting period. Other companies put limits on the "dating back" of benefits and paid only from the end of the waiting period. Such differences often gave rise to trouble when a policyholder was insured in more than one company. Extreme liberality in respect to the conditions of payment was in itself an incentive to claim, which had a distinct bearing on the rate of disability experienced and which rendered the experience of one company quite different from that of another. Accordingly, it is desirable not only that the

conditions of payment be approximately uniform in all companies but that these conditions shall not be so unduly liberal as to invite claims.

While, theoretically, it would be reasonable to provide that, when permanency is established by continuance of total disability for the specified waiting period, payments shall be made retroactive for the whole period of disability, for practical reasons such a provision is not desirable. The cost would be greatly increased because in many cases recovery would be delayed until after the end of the waiting period in order to qualify for the much larger benefits. Under the standard provision there is less inducement to prolong a disability that really terminated within the waiting period, since all that could be obtained by doing so would be a single month's income payment.

Where notice of the claim is delayed, retroactive payment of income benefits is *allowed* under the standard provisions up to 1 year from date of notice, while waiver of premium due not more than 6 months prior to notice (and during disability) *must* be granted. Most companies provide that benefits—both income payments and premium waiver—shall be retroactive up to 1 year prior to notice. While substantial uniformity has been in fact attained on this point, the standard provisions do not require it.

The limitation of 1 year on dating back the payment of benefits is another instance of conflict between what is logical and what is practical. It may appear that, since the policyholder has insured himself against the happening of a specified contingency and has paid the premium agreed upon, he should not be deprived of the benefits merely because of delay in notifying the company. This view, however, would leave the company in the position of having a large and indefinite liability for disability benefits due in past years of which it had not, as yet, received notice. The fact that the insured might have since recovered would, under this view, be no reason for nonpayment of benefits which would have been paid if the claim had been received and approved. Thus it might be claimed that a policy which had lapsed several years before was still in force because the insured was disabled at the time of lapse; and while the onus of proof of such disablement would be on the



claimant, it might be difficult for the company successfully to contest an improper claim. Again, under an endowment policy, a retroactive claim might be made years after the policy had matured, so that maturity of the policy would still leave the company with a contingent liability for which some provision would have to be made. Such a situation is clearly a very unsatisfactory if not an impossible one for the company. The only practical solution is to put a definite limit on possible retroactive payments.

Where the policy has lapsed for nonpayment of a premium and where proof is furnished that disability commenced not later than the end of the days of grace (and still continues), disability benefits must be allowed as if the policy had not lapsed, provided notice is received within a specified period from the date of lapse. This period must be at least 6 months and is generally a year. In the case where disability began after the due date of the unpaid premium but within the days of grace, the insured must pay that premium; i.e., it is not waived since it did not fall due *during* the disability.

*Exclusion of Certain Risks.* Permission is given in the standard provisions to exclude from the coverage "certain risks or hazards" as may be specified in the policy. Thus, the company's clear right to limit the scope of coverage which it is willing to undertake, a right which had to be settled by litigation in regard to the life-insurance coverage (and which, in fact, is not yet recognized for such coverage in some states), is established. The risks generally excluded are (1) disability arising from self-inflicted injury, (2) disability caused by military or naval service in time of war, and sometimes (3) disability caused by a violation of the law. A claim arising because of self-inflicted injury would be fraudulent or, at any rate, a breach of that good faith which is the necessary foundation of all insurance contracts. Disabilities resulting from violation of the law would probably, in any case, be excluded on grounds of public policy.

The risks of disability that may occur as a result of service in the armed forces in time of war are too great to be assumed even in time of peace. It is usual in time of peace to assume the *life-insurance* risk involved in a possible participation in a future war,

since the effect on the total mortality rate of the company would not, in all probability, be very great and can properly be borne by the whole body of policyholders. In the case of disability benefits the additional cost in event of war, if the extra risk were not excluded, might be extremely serious. Such risks are excluded either by a specific provision that disabilities arising from service in the armed forces in time of war are not covered or by a provision that, in event of such service, the disability provision is automatically terminated or suspended, with, of course, an adjustment of the premiums payable.

The risk of disability as a result of participation in aviation is not a serious one. Most casualties from that cause result in death rather than disability. Where there appears to be a special danger of disability, the company would not as a rule issue a policy including disability benefits, except with a suitable extra premium.

**Disability Income Benefits as Indemnity for Loss of Earning Power.** Most forms of insurance other than life insurance are properly regarded as contracts of indemnity; i.e., the insurance is for the purpose of *making good a loss*, and in general no greater amount can be recovered than the amount of the loss, irrespective of the amount of the policy. Life insurance is different, because not only is it impossible to put a limit to the financial value of a human life but, since a claim can arise only by death, there is no temptation (under normal circumstances) for the insured to cause a claim under the policy.

A contract providing for disability benefits should be underwritten as a contract of indemnity. Its object is to replace, in part at least, the loss of earning power caused by the disablement of the insured. In fact, if a high claim rate is to be avoided, the amount of disability income must be substantially less than the insured's normal earned income. Hence, the company must consider the applicant's earning power as a prime element in the selection of the risk. Because of the impossibility of controlling the total amount of insurance with disability income benefits taken by an individual in different companies, the view is held in some quarters that both (1) the definition of total and permanent disability and (2) the benefits payable should be consistent with the idea of indemnity.

The definition of disability in the standard provisions is unsatisfactory. "Incapacity to engage in any occupation for remuneration or profit" covers too much ground. It represents neither the wishes of the applicant in regard to coverage nor the intentions of the company in regard to its admission of liability. A more logical basis would be to define disability in terms of reduction in earning capacity and to limit the amount of disability income to a stated percentage of current or recent earnings.

There are, however, practical difficulties in such a plan in both these respects. Thus, the limitation of benefit should be related to the earned income immediately prior to claim, which may be quite different from the earned income at the time when the policy was issued. Where income has been reduced, the benefit payable might otherwise exceed the current income. This means that the effective coverage under such a plan would not be fixed but would fluctuate as earnings changed so that premium adjustments would be required. There is also the fact that "income" is not always in cash, and in such cases it may not be practicable to define disablement or to fix the amounts of benefits in terms of income.

Overinsurance is, perhaps, the greatest danger to the companies in connection with the issue of disability benefits. Practical considerations aside, it would be ideal if coverage were so limited that it would be impossible for a claimant to collect, whether from one company or a number of companies, a greater amount in disability benefits than a specified proportion, such as two-thirds, of the total amount of his earned income just prior to disability.

In preparing the standard provisions, the committees recognized the desirability of permitting a company to make such limitations on the amount of benefits collectible. In allowing "any provision not inconsistent with these requirements," it was specifically stated to be the intention to permit a provision "that a proportionate reduction of income payments accompanied by return of premiums paid on the amount of such reduction may be made in case the aggregate monthly amount payable to the insured on account of disability (all companies) exceeds the percentage specified in the provision (not to exceed 100 per cent) of monthly earned income at date of disability or alternatively at date of application."

Such a provision is called a "prorate" clause. It corresponds to the "other insurance" clauses in fire or burglary insurance and is for the same purpose: to prevent the insured from collecting more than the value of the "property" (in this case "earning power") lost or destroyed.

Thus far only one important company has adopted the prorate basis for disability income benefits. The provision for prorating at present (1956) used by that company reads as follows:

#### REDUCTION OF BENEFITS

If the Insured shall be regarded as totally disabled under the provisions hereof, and the monthly income benefit to which he shall be entitled hereunder, and under other Supplementary Disability Policies issued to him by the Company, together with the income benefits, if any, to which he shall be entitled, by reason of bodily injury or disease, under insurance in any other company or association of whatever kind, shall exceed in the aggregate seventy-five per centum of his former earned income, ascertained as herein provided, the monthly income provided for herein shall be reduced so that the total monthly income under this and such other insurance, if any, shall not exceed seventy-five per centum of such former earned income. In event of such reduction future Premiums hereon will be equitably reduced, and the Company will pay an equitable part of the Cash Surrender Value hereof, computed as of a date immediately preceding disability. If, at the time of such reduction, there shall be an election to have the Premiums remain at their original amount, and to leave with the Company the portion of the Cash Surrender Value referred to above, and if the Company is thereafter notified that the income benefits to which the Insured was entitled under insurance in other companies or associations at the time of approval of proofs as herein provided, have been reduced or terminated, the monthly income benefits which may become due hereunder after such notification, by reason of his then disability, will be redetermined as herein provided. In event of such election, and of the Insured's recovery from his then disability, the monthly income benefit provided for herein will be restored to its original amount, subject to all the provisions hereof.

Originally, it was provided that the amount of disability income payable would be determined by the status (in regard to *total* dis-

ability benefits receivable) existing at the date of claim and that the amount of income would thereafter remain unaltered. However, it sometimes happened that income benefits payable to the insured by other companies were payable only for a limited period (as under accident-and-health policies). In administering the provision, the company in such cases actually made an upward adjustment in the income payable when such a termination of benefits payable by another company took effect. It will be noted that the provision now in use provides for such an adjustment provided the insured had elected to maintain full coverage, i.e., had elected that the premium payable for disability benefits would not be reduced and had not taken the portion of the cash-surrender value (of the disability provision) corresponding to the amount of reduction.

Experience with the clause described above has been that it has become effective in only about 3 per cent of all claims for income benefits. This low proportion of reductions is attributed to (1) strict selection with reference to earned income at the date of issue and (2) the long-continued upward trend of wages and salaries.

Notwithstanding the basic soundness of the prorated basis for disability income benefits, it has failed to be generally adopted, largely, no doubt, because of administrative difficulties and practical objections. Thus, settlement of a claim would apparently be delayed until the amounts payable by other companies were known. Also, any reduction would apply only to companies with a prorated clause, while some dissatisfaction or misunderstanding on the part of claimants would be likely to arise.<sup>1</sup>

**Developments Subsequent to the Adoption of Standard Provisions.** *Changes in Rates.* The adoption of standard provisions by some of the states was a result of the joint investigation of 1926 into disability experience, which had been undertaken largely with a view to furnishing a suitable basis for calculation of premium rates and reserves.

Those states which adopted the standard provisions required them to be put into effect by . . . Consequently there

was at that time a general revision of policy forms in order to comply with the new provisions. At the same time practically all companies took the opportunity not only of changing their rates in accordance with the changed provisions but of substantially increasing them. This was probably the first real rate increase that had taken place. The companies which had adopted the 90-day clause had substantially increased premiums over those necessary under the true total-and-permanent clause, but experience had shown, generally speaking, that the additional benefit was worth more than the premium charged for it, so that, in effect, premium rates had actually been reduced.

From about 1924, the extent of the losses incurred had resulted in a realization that higher premiums were necessary for policies carrying the 90-day clause, and some companies had already made increases in premium rates before the joint experience became available. As a rule, however, increases in rates had been accompanied by increased liberality in the conditions under which benefits were payable. Competition and the belief that the situation could be cured by comparatively mild measures were responsible for these mistakes.

By the beginning of 1930 there was a more nearly complete realization of the situation. Most of the companies had experienced increasing losses in spite of a general tightening of the administration of selection and of admission and supervision of claims. The result was a real rate increase. Disability premium rates had now increased materially from the original premiums of a few cents for the waiver-of-premium benefit in event of true total and permanent disability and had reached amounts which were often a substantial proportion of the total premium payable.

*Women.* An important innovation which took place at this time was the general adoption of higher rates of premium for women than for men. The rates of disability among women had been from  $1\frac{1}{2}$  to 3 times those among men. Nearly all companies announced in connection with the new 1930 contracts that rates for women would be either  $1\frac{1}{2}$  times or twice the rates for men. This increase, added to the general increase in rates, meant that thereafter women had to pay from  $2\frac{1}{2}$  to 3 times the rates they

had formerly been charged for a more liberal type of contract. In addition, some companies adopted stricter selection rules in regard to women, restricting them to comparatively small amounts or in some cases granting only the waiver-of-premium benefit, while the more unfavorable classes were either refused disability benefits on any terms or given a high extra rating.

At a later date, many companies discontinued issuing policies with disability income benefits to women although continuing to issue policies with a waiver-of-premium provision, often at double the rates for men.

*Losses.* As stated above, losses reported by many companies during the period up to 1931 were substantial. Apart from the inadequacy of premium rates, which was the fundamental reason for losses, there have been other factors which are inherent in the business and which render proper control of claims difficult.

One of these is the extent of misstatements by the insured at the time of making claim or on review of claim. Some of these are deliberate fraud; at other times they may be merely a stretching of the truth. It would be too much to expect rigid honesty to the extent that the insured would decide a doubtful point contrary to his own financial interest. As in other relations with corporations, there is often a feeling that it is all right to "beat the company," so there is absolute necessity of close and expensive supervision. No amount of supervision, however, will eliminate entirely the element of fraud, which is inseparable from this class of coverage.

Apart from fraud there is a large class of cases where the insured honestly considers himself entitled to claim benefits but where there is more than a doubt of his right to them. There is often a very fine line between a disability which prevents the insured from doing any work and one which is really only partial disability. Often it may be merely a question of medical advice about the desirability rather than the necessity of doing no work. The insured's physician may be influenced by the fact that an adverse opinion means a financial loss to his client.

Such doubtful claims, together with dishonest ones, lead to a great deal of expensive litigation. It may be fairly said that no com-

pany contests a legitimate claim. In practically every contested case the company *knows* that it is not liable, and as a duty to the general body of policyholders it is bound to refuse payment unless there is no reasonable prospect of success in doing so. Unfortunately, the company encounters here another big element in the loss situation—the attitude of courts and juries.

Where the dispute is between a disabled policyholder and an insurance company, the company's case must be strong indeed to secure a favorable verdict. Such questions cannot, in fact, be fairly tried by jury. In some states the attitude of the lower courts themselves is little better, and frequently the court in its anxiety to find for the claimant reads into the insurance contract meanings that are not in it and that are opposed to its tenor. It is true that bad decisions—whether by jury or by the lower courts—can be, and often are, reversed by the higher courts; but appeals are expensive, and where there is any doubt of the result the company may deem it better to accept the judgment or, if possible, to make a compromise settlement. All the companies pay out in this way substantial sums for which no provision was made in the premium rates and which represent a loss to the general body of policyholders.

**General Contract Revision of 1932.** The general increase in disability premium rates and the other measures adopted in conjunction with the standard provisions early in 1930 had not had time to show their effect before some of the companies found themselves facing still greater losses, which seemed to call for still more severe measures. These increased losses were in large measure a result of the economic depression and were responsible for the most radical overhauling of the whole situation that had yet taken place.

Some expressed the opinion that the companies should frankly recognize that the disability income benefit could not be provided at a practicable cost because of the uncontrollable related elements causing loss. Others, representing the majority opinion, felt that the income benefit was too valuable a feature to the public to be given up entirely, that a demand existed for it which the companies ought to supply, and that it could be safely offered subject to certain further modifications and restrictions. All, or practically all,



were agreed that, subject to similar modifications, the provision for waiver of premium *without* an income benefit not only was desirable but could be safely written without likelihood of loss. It was true that little or no loss had been incurred under the waiver provision when written alone. This had been largely due to the fact that there is much less inducement to present an improper or fraudulent claim where the benefit is merely a waiver of premium.

It is perhaps unfortunate that there was not a more general agreement in 1931 on the practical scope of disability benefits in life insurance. Natural differences of opinion, individual company experience, and possibly also competitive considerations prevented such a desirable result. With the exception of a very few companies which had not suffered any severe loss and which decided to continue disability benefits on the existing basis there was a general revision of contracts and rates effective at, or soon after, the beginning of 1932.

Out of 30 important companies 10 (including some of the largest in the country) decided to limit disability benefits in future contracts to the waiver-of-premium benefit only, with the substitution of a 6-month for a 4-month waiting period and at a substantially increased premium rate. The remaining companies, in general, decided to offer an income benefit modified as follows:

- (1) Coverage to cease at age fifty-five instead of sixty
- (2) Monthly income, \$5 instead of \$10 per \$1,000 insurance
- (3) Waiting period, 6 instead of 4 months
- (4) Income, in case of endowment policies, to cease at maturity date
- (5) Basis of rates changed, producing a substantial increase in premiums

The companies offering this form of income benefit also issue policies providing the waiver benefit with coverage to age sixty. In nearly all companies it was decided that income benefits would not be granted to women. At the same time some companies which, since 1930, had been charging less than double rates for

women raised the rate for the waiver benefit to double the rate for men.

About this time (1932) some of the Canadian companies adopted a different type of disability income contract under which the income payable was both *temporary* and *decreasing*. For example, in some cases the income benefit per \$1,000 of face amount was \$10 monthly payable for 50 months, followed by \$5 monthly for 100 months, with payment of the face amount of the policy at the end of 150 months if the insured was still alive and disabled. This type of benefit, while having advantages from the company's point of view, did not provide adequate protection to the policyholder against the risk of total and permanent disability. Later, it was generally abandoned in favor of a *uniform* (not decreasing) income payable for a limited period.

*Developments since 1932.* The drastic action taken in the 1930s in regard to the modification or elimination of income benefits and the adoption of substantially increased premium rates, together with greater attention to the selection of risks and the administration of claims based on greater knowledge of the requirements for successful administration generally, resulted in the practical elimination of losses under new policies. As for policies previously issued, continued losses were inevitable, but these were substantially reduced through a generally more rigorous administration of claims. Another factor which had a material effect in improving the experience under both old and new policies was the increasingly favorable economic situation in the 1940s and 1950s, including a great reduction in the proportion of persons unemployed, particularly during the war years. All experience shows that favorable economic conditions have a marked effect in reducing the number of disability claims, and vice versa. This phenomenon is, in fact, a characteristic feature of this type of business and one which indicates the necessity for realistic administration in regard to both the admission of new claims and the supervision of existing claims.

These generally improved conditions, as well as the increased knowledge of the kind of administration required, have resulted in some reversal of the general attitude of the companies in regard

to the issue of policies with disability benefits. Other factors which have been influential in creating a more liberal attitude have been (1) the inadequacy of the coverage provided for income benefits on the basis generally adopted in the 1930s, (2) the desirability that adequate insurance against the hazard of total and permanent disability be made available to the public through private rather than public enterprise, (3) the availability of a satisfactory basis for the calculation of premium rates for different types of benefit through the publication of extensive new tables based on the companies' experience over a long period, and (4) the force of competition.

As for the first of these factors, an income benefit of \$5 monthly per \$1,000 of insurance, payable only if disability occurs before age fifty-five, requires a relatively large amount of insurance to provide a reasonably adequate income. It also omits coverage in the years when the highest rates of disability occur and while the insured is still active and thus gives only partial protection. Some companies have, therefore, reverted to the \$10 basis with coverage to sixty. This action would appear to be justified for the reasons discussed above.

An important new factor in determining the attitude of the companies in regard to the scope of disability benefits has been created by the amendment of the Social Security Act. Under the Act, as amended, an insured individual is eligible, under the conditions stated in the Act, for disability insurance benefits after age fifty. Many people believe that private enterprise rather than government should provide this type of insurance. It seems probable therefore that the present trend toward a wider and more adequate coverage will continue. With the experience of the past as a guide and with greater knowledge of cost and administrative requirements, there is probably no good reason why it should not.

It seems probable, therefore, that the present trend toward a wider and more adequate coverage will continue. With the experience of the past as a guide and with greater knowledge of cost and administrative requirements, there is probably no good reason why it should not.

## DOUBLE INDEMNITY

A provision in a life-insurance policy, usually in the form of a rider or supplementary agreement, under the terms of which double the face amount of insurance is payable if the death of the insured is caused by accidental means, is an *additional-accidental-death-benefit*, or *double-indemnity*, provision.

The attractiveness of double indemnity lies in the large additional benefit which *may* become payable through the payment of a relatively small additional premium. It looks like a "good bet" to many applicants. It is also an inexpensive way of substantially increasing the effective insurance, at least for one fairly important cause of death, at small cost and, in this way, is of some real value to those who need more insurance than they can afford. However, if one cause of death is to be selected for double benefit it would be more logical to select one which is likely to involve long illness and heavy expense, such as cancer. Where death is caused by accident that is not the case. In fact, damages are frequently collected for an accidental death, so that there is often less rather than more need for an additional insurance benefit.

Another consideration is that often there is considerable doubt whether death was, in fact, accidental. Illustrations of this are given below. In view of the large additional payment where accidental death can be established, many claims for double indemnity will be made under doubtful circumstances as experience amply proves. This leads to additional expense and to litigation which is generally bad both because of friction with beneficiaries and because of the effect on the company's public relations.

Although, therefore, the need for, or desirability of, a double-indemnity provision may be questioned, it has become an established and popular feature of the modern life policy and is included in a substantial proportion of all policies issued.

**Travel Clause.** Originally two forms of double indemnity were offered. The first of these was the "travel" or "passenger" clause, under which the additional insurance was payable only in case the insured was killed as the result of an accident occurring while he was traveling as a passenger in a train, bus, or other common car-

rier. This very restricted form of double-indemnity benefit is now obsolete in so far as new insurance is concerned.

**General Double Indemnity.** The usual form of double-indemnity provision provides for payment of the additional benefit in event of death by accidental means from any cause other than those specifically excluded. While death from accidental means may seem a well-defined contingency, experience has shown that, if liability under the clause is to be avoided for certain types of claims not intended to be covered, the terms of the contract must be very explicitly stated. In fact, in view of the many extraordinary decisions which have been rendered against the companies in double-indemnity suits, it seems to be a question whether it is possible to word the contract in such a manner as effectively to limit coverage to what is intended.

A typical definition of accidental death for the purposes of double indemnity is as follows: "Death resulting from bodily injury effected solely through external, violent, and accidental means independently and exclusively of all other causes and within ninety days after such injury."

The expression "accidental means" is important. Its effect is to eliminate liability where the *result* of what happened could be considered as accidental but where the *cause* of that result was not accidental. For example, if death occurs while the insured is being operated on under an anesthetic the result may be accidental but the *means* are not accidental. The intention, in using such a definition, is not to avoid liability for legitimate claims but to *limit the coverage* to deaths which are purely and entirely accidental.

The provision that death must be caused *solely* by "external, violent, and accidental means" is also important and is intended chiefly to eliminate "accidental" deaths where disease was the real or a contributing cause. Examples are where the insured suffers a heart attack while going upstairs or while driving his car. In such cases the result is apparently accidental but the real cause of death was disease.

**Exclusions.** Experience with the double-indemnity provision has shown the necessity for excluding certain causes of death even where (in some cases) both the means and the result were acci-

dental. These exclusions are of three kinds: (1) deaths resulting from violations of the law of various kinds and which are excluded on grounds of public policy; (2) deaths where an accident was involved but where accident was not the sole cause, such as those resulting from illness or disease or from bodily or mental infirmity; and (3) deaths from certain specified causes where there may be considerable doubt about the accidental character of the death. Examples of this latter type of exclusion are where death results from the taking of poison or the inhaling of gas. A large number of such deaths are suicides, but frequently it would be difficult or impossible to prove that death was not accidental, particularly in view of the legal presumption against suicide. The necessity of rather numerous exclusions in the double-indemnity provision indicates the many practical difficulties inherent in this form of coverage.

Most companies exclude all deaths resulting from war, whether while serving in the armed forces or not. The policy may also provide that, in event of service in the armed forces in time of war, the double-indemnity provision shall be either terminated or suspended during such service. Accidental deaths owing to aviation, except where the insured was traveling as a passenger on one of the regular airlines, are also generally excluded.

*Time and Age Limits.* Deaths must occur (1) within (usually) 90 days of the accident and (2) before the insured reaches a specified age, now usually sixty or sixty-five.

The first of these requirements is reasonable on practical grounds since, if a long period elapses between an accident and death, there may be a real question about whether the accident was or was not the sole cause of death.

Originally, double-indemnity coverage extended for the whole of life, or until the termination of the policy if sooner. Later the period of coverage was limited by many companies to age seventy and then generally to sixty-five or sixty. As will be shown later, the accidental-death rate increases rapidly in later life, a fact which at first was not fully realized. The cost of coverage for life (annual premium) is therefore substantially greater than where coverage ceases at sixty or sixty-five.

**Premiums and Reserves.** When the double-indemnity provision was first introduced most companies charged a *flat* premium rate, irrespective of age, of either \$1 or \$1.25 per \$1,000, even where coverage extended for the whole of life. The rate of accidental death, however, increases with age, at least after about age thirty, so that premium rates not only should, in general, increase with age in the same way as life-insurance premiums but should be greater where coverage is for life or to, say, age seventy rather than to a lower age.

The rates of accidental death according to the experience of a group of the principal companies are shown in the "Inter-Company Accidental Death Table," which is the standard table now in use for the calculation of premiums and reserves for double-indemnity benefits. The death rates at quinquennial ages on that basis are shown in Table 13-5.

TABLE 13-5. ACCIDENTAL-DEATH RATE  
INTERCOMPANY TABLE

(Number of accidental deaths in a year per 1,000 insured at age stated)

<i>Age</i>	<i>Deaths per 1,000</i>	<i>Age</i>	<i>Deaths per 1,000</i>
15	0 88	45	0 68
20	0 75	50	0 87
25	0 56	55	1.12
30	0 44	60	1 38
35	0 50	65	1.72
40	0 60	70	2 05

It will be seen (1) that the accidental-death rate *decreases* up to about age thirty; (2) that the rate is less than 1 per 1,000 up to about age fifty; and (3) that after about age fifty the rate increases rapidly, reaching 2 per 1,000 at about age seventy.

The effect on premium rates of different periods of coverage is shown in Table 13-6.

This table shows that a gross premium (including loading for expenses) of \$1 per \$1,000 is not sufficient for life coverage except at very low ages nor for coverage limited to as low as age sixty at ages above about forty.

TABLE 13-6. NET PREMIUMS PER \$1,000, DOUBLE INDEMNITY. INTER-COMPANY TABLE, 3 PER CENT

Age at issue	Coverage limited to age			
	60	65	70	Life
25	\$0.61	\$0.65	\$0.69	\$0.79
35	0.72	0.79	0.85	0.99
45	0.91	1.00	1.08	1.31
55	1.16	1.29	1.41	1.78

In the past, reserves for the double-indemnity benefit were very generally held on a 1-year-term basis, the reserve simply being the premium for the unexpired portion of the policy year at the rate of \$1 per \$1,000 of insurance, with appropriate modifications for limited-payment policies. Because of the increasing accidental-death rate, reserves should be accumulated on the same principles as for level-premium life insurance. Where the coverage is limited to age sixty or sixty-five, the *aggregate* reserves on the \$1 (term) basis might for some years equal or exceed the aggregate true reserves (particularly if the majority of business in force was at the lower attained ages), but eventually such reserves would be insufficient. Where coverage extends to a higher age or for life, they would be insufficient almost from the start.

### REVIEW QUESTIONS

1. Describe briefly, in chronological order, the different types of provisions for disability income benefits which have been used by United States companies.

2. What is a presumptive clause? What are the reasons for the use of such a clause?

3. What information do disability tables supply? Describe (a) the Hunter Table; (b) the Class 3 Table.

4. Why was it found desirable to establish "standard provisions" in connection with total-and-permanent-disability benefits in life policies? State at least three examples of important matters covered by the standard provisions.



5. What were some of the more important reasons for the large losses sustained by many companies in connection with disability benefits during the 1920s and 1930s?

6. What steps were taken to eliminate losses on new policies?

7. Explain the need for the following provisions in a disability clause: (a) cessation of coverage at a specified age, such as sixty; (b) requirement that claims must be submitted while the disability still exists.

8. What is a prorated clause? What is its purpose? What are the practical objections to such a clause?

9. What factors have led some companies to liberalize and expand disability coverage in recent years?

10. Discuss the suitability of a provision for double indemnity in a life-insurance policy.

11. What are the three general *classes* of "exclusions" in a double-indemnity provision? What are some of the principal causes of "accidental" death usually excluded? Why?

12. Originally most companies charged a flat premium (irrespective of age) for double indemnity. Later, premiums increasing with age were adopted. Explain why this was necessary.

## Group Insurance

Group insurance is the most important development of life insurance in recent years. Under the group plan a large number of persons are insured by a blanket policy, without medical examination, and at a low cost, generally on the 1-year-renewable-term plan.

Group insurance originated in the early years of the present century and has had a rapid growth since that time. On Dec. 31, 1955, the amount of group insurance in force in the United States was approximately \$101.3 billion. Nearly 50 million persons were then insured under group policies.

The principles underlying group insurance are the same as those underlying ordinary life insurance, the *group*, however, being the unit of selection instead of the individual life. The insurance company sets up various underwriting standards for selecting the groups it will insure and for determining the schedule of insurance it will offer and the basis of the premiums. Provided that each group, *as such*, is carefully selected and that at least 75 per cent of the eligible employees in each group elect and participate in the insurance, the company may expect an average mortality experience by insuring a sufficient number of groups. Normally each group is initially underwritten on a basis which appears to be self-supporting; but it is not necessarily anticipated that in operation every group will pay its own way, only that there will be an average experience for the groups as a whole. Ordinarily no medical examination is required; but although most groups thus include a proportion of substandard and uninsurable lives, experience has shown the rate of mortality among persons insured under group contracts to be low.

**Legal Definition of Group Life Insurance.** In 1918 the National Association (then the Convention) of Insurance Commissioners recommended a standard definition of group life insurance which was adopted by a majority of the larger states. Under this original standard definition group insurance was limited to *employees of a common employer* and to groups of *at least 50* such employees. As the business developed it became desirable to liberalize the standard definition regarding both the minimum number of lives in a group and the application of the plan to groups other than the employees of one employer, as well as in certain other less fundamental respects. The standard definition was accordingly revised in 1946, 1948, 1950, 1953, and 1954 under a "model law" proposed by the association. This law has been enacted in some states and with minor variations in other states but has not yet become nationwide.

*Original Standard Definition of 1918.* The original standard definition was short and simple. It covered the basic principles of group insurance. The definition was as follows:

Group life insurance is hereby declared to be that form of life insurance covering not less than fifty employees with or without medical examination, written under a policy issued to the employer, the premium on which is to be paid by the employer or by the employer and employees jointly and insuring only all of his employees, or all of any class or classes thereof determined by conditions pertaining to the employment, for amounts of insurance based upon some plan which will preclude individual selection, for the benefit of persons other than the employer; provided, however, that when the premium is to be paid by the employer and employee jointly and the benefits of the policy are offered to all eligible employees, not less than seventy-five per centum of such employees may be so insured.

The foregoing definition forms a condensed summary which includes all the basic features of group life insurance, each of which will now be considered.

*Numbers Insured.* The first requirement is that the group shall contain a specified number of lives insured, in the above case 50, but reduced in the later standard definitions to 10. The object of fixing a minimum number is to ensure that the groups will be

large enough to provide a reasonable probability that average mortality will be experienced. The other benefit of dealing only with groups of substantial size lies in the saving in expenses. The larger the group, the lower the *rate* of expense. As the group is reduced in size, companies sometimes adopt the practice of pooling the claim experience for smaller groups so as to stabilize the mortality fluctuations and of streamlining and standardizing the coverage in order to reduce the *rate* of expense.

The original limitation of group insurance to groups of at least 50 lives gave rise to a modification of the plan known as *wholesale insurance*, under which groups as small as 10 lives were insured. Since the minimum number of lives for group insurance was reduced to 10 there has been a trend toward reducing the minimum for wholesale insurance to 5.

Under the wholesale plan a separate application is made by each person in the group, and a separate policy is usually issued for each person insured, although in some cases a master policy is issued to the employer, with certificates to the employees, as in group insurance. The plan of insurance and the system and machinery for taking care of it are, however, practically identical with those used in regular group insurance. The insurance is issued under conditions which minimize personal selection on the part of those insured and, as a rule, without medical examination, although a simple form of personal-health statement is usually required from each employee. The premium must be paid by the employer in whole or in part, while the amount of insurance is not elected by the insured but is fixed according to schedule on the same principles as for regular group insurance. There is thus little difference, in effect, between wholesale insurance and group insurance except that in the former the insurance company may decline the applications of any employees who appear to be uninsurable. In this way the company can, if necessary, eliminate any bad risks and protect itself against the greater degree of adverse selection to be expected in the case of small groups. The intention, however, is to cover, so far as is deemed practicable, all employees, in the same manner as under a group policy where larger numbers are involved, and the company must take a liberal attitude if the plan is to be of

benefit. The plan is properly applicable only to groups which do not contain an abnormal proportion of unhealthy lives but which are too small to come within the legal requirements for group insurance. Because of the smaller size of the group and the correspondingly higher expense rate, the premium rate is ordinarily somewhat higher than for regular group insurance.

In view of the reduction in the minimum number of lives which may be insured under a group policy, wholesale insurance is now of very much less importance than formerly.

*Employees.* The next requirement of the 1918 definition was that the persons insured under a group policy must be the employees of a common employer.

As explained later the group system has been extended to groups other than employees of one employer. Employee groups, however, have always formed the greater part of all group insurance issued and are most suited to the successful operation of the system because of the continued interest generally manifested by employers in the proper functioning of the plan. These points will be considered further in connection with other features of the system.

*Medical Examination.* Group insurance may be written with or without medical examination but in practice is written without medical examination. This is a distinctive feature and one of the greatest advantages of the plan. In any group of at least 10 persons there is probably a certain number who could not obtain life insurance on the ordinary terms, if at all, because of physical defects or other reasons; but in a group of the necessary minimum size, consisting of active employees working full time, it may generally be assumed that there is not a *disproportionate* number of unhealthy lives. Hence individual medical examination is not required, because it is the group and not the individual that is selected. Moreover, by eliminating medical examination the expense is considerably reduced. In small groups employees who are away sick at the inception of the scheme are usually excluded until recovery, but in larger groups they may be included.

*Contracting Parties.* The policy is issued to the employer who applies for the insurance, makes the contract with the insurance company, and is the insured. The insurance company has no direct

contractual relation with the employees even where the latter, as is now usual, make a contribution to the cost of the insurance through payroll deduction. The insurance company merely issues a certificate to each employee stating that he or she is a member of the group and is included within the scope of the policy. The certificate gives particulars about the amount of insurance and the name of the beneficiary who is to receive payment in event of the death of the insured. It also contains a statement of the right of the employee to take permanent insurance without medical examination in event of termination of employment.<sup>1</sup>

*Payment of Premiums.* The original standard definition and (so far as employee groups are concerned) the later definitions require that the employer must pay either all or a part of the cost of the insurance. If the employer pays the whole of the premium the plan is *noncontributory*. If the employees pay part of the premium the plan is *contributory*.

There are several good reasons why the employer should make a substantial contribution to the cost of a group policy. These include (1) reduction in cost to the employees, making the plan more attractive and beneficial to them; (2) resulting greater interest and cooperation by the employer in the administration of the plan; (3) the fact that since the employer pays part of the cost, the part paid by the employee can be on a *fixed* and *level* basis—not increasing from year to year as age increases, and not affected by dividends or, necessarily, by an increase in the basic scale of premium rates. Variations in the cost from year to year are absorbed by the employer, who also is entitled to dividends or rate reductions (under nonparticipating policies), as will be explained later.

The cost to the employee should be low and should compare favorably, even at the youngest ages (where the same *level* contribution per \$1,000 is paid), with the cost of the same insurance if taken on an individual basis.

Originally many group plans were on a noncontributory basis, the employer paying the whole of the cost, but more recently most

<sup>1</sup> The terms of the group policy and of the individual certificates are more fully dealt with later in this chapter.

of the group insurance issued has been on a contributory basis. At present (1957), because of the demands of labor unions and the fact that group insurance and group-annuity coverage have become an important element in "bargaining" between employers and unions in connection with wage contracts, there is again some tendency toward the adoption of noncontributory plans.

A noncontributory plan has certain definite advantages. All eligible employees are *automatically* included, thus eliminating entirely the factor of individual choice of taking or not taking the insurance, while the administrative details are simplified through the elimination of payroll deductions.

There are, however, many good reasons for favoring a contributory plan. In the first place, a larger amount of insurance may be provided for the same employer outlay. Furthermore, the real object of group insurance is to enable employees as a group to obtain, *for themselves*, through the medium of their employer, a basic minimum amount of insurance at the minimum cost. It is not the idea that the employer should give his employees something for nothing. Theoretically, there is no objection to a plan by which the employees pay the entire cost and the employer is merely the intermediary for the collection of premiums (as in *payroll-deduction* or *salary-allotment* insurance); but there are practical objections to such a course. The cooperative plan under which both employer and employee share the cost is reasonable and mutually advantageous. From the employer's point of view the establishment of a group-insurance plan may result in certain advantages such as stability of employment and relief from moral liability for financial aid in certain circumstances. From the employee's point of view the insurance is obtained at a cost which, normally, is substantially below the rate for the same insurance individually secured. In the case of some employees such insurance could not be obtained at all.

Under contributory plans the employees usually contribute the same amount per month per \$1,000 of insurance, regardless of age, even though the insurance is generally on the 1-year-renewable-term plan, which involves an increase in premium every year in respect to each employee. To increase the contributions each year

would be objectionable from a practical standpoint; therefore it is arranged that the employee will pay a flat amount and the employer will pay the balance, whatever it may be. Under the 1-year-renewal-term plan the employees usually contribute not more than \$0.50 or \$0.60 per month per \$1,000 of insurance, which is less than most employees would have to pay for individual insurance even on the term plan except, possibly, at very low ages.

The fact that the amount paid by a very young employee may, for a time, be actually more than the net cost of an individual policy is not a serious objection. Inclusion in the plan entitles him to insurance during the whole of his employment (assuming the plan to be maintained in operation) for the same level cost each year. During most of this period the employee pays far less than the actual cost of the benefits he receives.

A contributory plan naturally involves more detail work in its operation. It is necessary to secure the enrollment of the required three-fourths of the total number of eligible employees and their written authorization to the employer to deduct their weekly or monthly contribution from their wages or salary. After the plan is in operation, new employees must be canvassed, and steps must be taken to maintain the group well above the 75 per cent minimum standard. Another point is that, while in a noncontributory plan all, including new employees, are automatically insured from a fixed date, under a contributory plan it is necessary to allow some time for employees to decide whether they will take the insurance. Where an employee does not elect to take the insurance when eligible but later wishes to do so, it is usually necessary for him to furnish evidence of insurability.

*Classes of Persons Insured.* A group may include all of the employees or all of a *class*, provided that the class is determined on the basis of conditions pertaining to the employment. In a railroad company, for example, the wages staff or the salaried staff might comprise a group. It is usual to exclude from coverage employees who have completed less than 3 months or some other period of service, since a short probationary period is desirable in order to eliminate a great deal of unnecessary work on account of transient or temporary employees. Again, when an employer has



several plants, the insurance plan may apply to one or more of them, not necessarily to all.

*Amount of Insurance.* The amount of insurance, or, as it is sometimes called, the *formula* or *schedule* of insurance, must be based upon some plan that precludes individual selections; i.e., the amount of the insurance on any individual must be fixed by rule and must not be subject in any way to his own election. There are five general methods for determining the amount of insurance: (1) it may be the same for all employees; (2) it may be based on the employee's salary; (3) it may be based on the employee's position; (4) it may depend on length of service; or (5) it may depend on two or more of these factors.

The first of these methods has the advantage of simplicity. It is open to the objection that an amount which is adequate and suitable in the case of one employee may not be so for another, for example, a junior clerk having the same insurance as a married employee of many years' standing or as a high-salaried officer of the company.

The second plan is the most common and is probably the best where, as is now usual, the employee contributes a part of the cost. Under this plan the amount of insurance is usually approximately 1 or 2 years' salary or wages.

Insurance based on the amount of salary or wages is an improvement over the simple plan of providing a flat amount of insurance for all and is a system which has been very widely adopted. It adjusts the amount of insurance to the employee's needs and the amount of his contribution to his ability to pay. An example of such a salary schedule is shown in Table 14-1.

TABLE 14-1. EXAMPLE OF SALARY SCHEDULE

Yearly earnings	Amount of insurance	Monthly contribution by employee
\$1,000 or less . . . . .	\$1,000	\$0 50'
\$1,001-\$2,000 . . . . .	2,000	1.00
\$2,001-\$3,000 . . . . .	3,000	1.50
Over \$3,000 . . . . .	5,000	2.50

The third method of determining the amount of insurance is that under which the amount is graded according to position held. For example, the schedule may be as follows:

Officers . . . . .	\$3,000
Foremen and department heads . . . .	2,000
Other employees . . . . .	1,000

This method has a practical disadvantage in that there may be difficulty in satisfactorily defining the different "classes" or "positions." Generally a straight salary schedule is preferable.

The fourth formula for determining the amount of insurance is that under which the amount is made to depend on length of service. This is more suitable for noncontributory than for contributory schemes. It does not work well under a contributory scheme because of the increases in contribution regardless of increases in salary. Usually the insurance commences at a minimum amount of \$500 or \$1,000 for employees having less than 6 months or 1 year of service and increases by degrees to a maximum of \$2,000 or \$3,000 according to a scale stated in the policy. This plan has the advantage of giving recognition to long service and thus of encouraging permanence of service. It does not, however, distinguish between the differing needs of high-paid and low-paid employees and their ability to pay, unless different classes are insured on different schedules. Under either a contributory or a noncontributory plan a service schedule is likely to result in an increasing average premium cost to the employer, because the percentage of the amount of insurance on the older employees with longer service tends to increase.

It is necessary to place a reasonable limit on the amount of insurance that will be issued to any class in a particular group to prevent the selection against the insurance company which would arise if very high amounts of insurance were allowable, since these very high amounts might be chosen by the employer whose executives were in bad health, and also to prevent violent fluctuations in the mortality rate of the group. At present the maximum amount of insurance that will be issued on any individual employee in any group by most insurance companies is usually determined

by the total amount of insurance in the group, being higher for large groups than for small ones.

Formerly, under the standard definition of group life insurance, there was no top limit on the amount of insurance on any employee. The latest revised standard definition of group life insurance includes a top limit of \$20,000 to \$40,000. It provides for a general maximum of \$20,000 on any employee but if  $1\frac{1}{2}$  times his annual compensation exceeds \$20,000, the maximum shall be \$40,000 or  $1\frac{1}{2}$  times the employee's compensation, whichever is less.

Sometimes it is suggested that an employee should be permitted to take, at his own option, additional insurance at group rates. Such an arrangement could not be permitted (even if it were legal) since an employee in poor health would be likely to avail himself of this privilege to the maximum extent, while many of those in good health would not do so in spite of the favorable terms for such insurance as compared with the cost of insurance obtainable elsewhere. There would therefore be selection against the company. It cannot be too clearly understood that in group life insurance the elimination of individual selection on the part of the persons insured is fundamental. It would not be practical to allow this privilege even with medical examination, since the premium rate is not sufficient for the expense incident to individual insurance.

*Beneficiary.* The insurance must be for the benefit of persons other than the employer, and the policy generally states in effect that the insurance shall be payable to the beneficiary named by the employee as set forth in his individual certificate. The employee has the right to change the beneficiary if he wishes.

In order to avoid, as far as possible, the expense and delay of paying policy proceeds to an employee's estate in the event that the beneficiary has died or no beneficiary has been named, the policy may contain a provision specifying to whom the insurance shall be payable. This usually provides for payment to one of various *alternate-preference beneficiaries*, such as wife or husband, children, or parents.

**Extension of the Standard Definition.** As already stated, the original standard definition of group life insurance was revised in

1946, 1948, 1950, 1953, and 1954 under model laws proposed by the National Association of Insurance Commissioners. These revisions are effective only in the states where they have been enacted into law.

Revision of the definition adopted by the association have reduced the minimum number of employees under a group policy issued to an employer from 50 to 10 and established a maximum amount of insurance on any individual of from \$20,000 to \$40,000 (including any other group coverage). This amount limit on an individual employee applies only to group insurance on the *term* plan and is applicable under policies issued to an employer, a labor union, or trustees of a fund. These revisions of the standard definition also permit group coverage for groups, other than of the employees of one employer, as follows: (1) a policy issued to a *creditor* to cover a group of debtors whose indebtedness is repayable in installments, (2) a policy issued to a *labor union* to insure members of the union, and (3) a policy issued to the *trustees of a fund* established by *one or more employers* or by *one or more labor unions*.

In the case of the first of these classes (creditor policies) the policy may be issued only if there are currently at least 100 new entrants into the group each year, and the amount of insurance is limited to the amount of current indebtedness not exceeding \$5,000. The whole of the cost may be charged against the persons insured. In the case of labor-union policies, the individual maximum insurance is \$20,000 to \$40,000 (including any other group coverage), as for employer contracts, and the premium must be paid at least in part from union funds. Under the third category (a policy issued to trustees for more than one employer or labor union) the policy must cover at least 100 persons at date of issue, and the entire premium must be paid from employer or union funds. In the case of the category of policies issued to trustees of more than one employer or of one or more labor unions there must be, in addition to the over-all minimum of 100 persons insured, not fewer than 5 persons per employer unit. Also, if the fund is established by the members of an employers' association, at least 60 per cent of the employer members whose employees are not

already covered for group life insurance must participate unless the total numbers to be covered exceed 600. It is also required that, in this type of group coverage, the policy shall not provide that the insurance on the lives of the employees of one of the employers shall cease if the employer discontinues membership in the association.

**Plan of Insurance.** Most of the group life insurance in force is on the 1-year-renewable-term plan. This plan is the most popular since it is simple and its cost is low. It is well adapted to the insurance of employees who form a fluctuating group, since adjustments of premiums on account of new entrants and withdrawals are easily made and there are no accumulated equities to be adjusted.

In recent years several different types of group plans providing permanent insurance have been developed. These permanent group plans fall into two major types, the *unit-purchase* type and the *level-premium* type.

Under the unit-purchase plan it is usually provided that, if an employee continues in the employ of a particular employer, an increasing part of his group life insurance will be in the form of whole-life paid-up insurance. Some plans provide that the purchase of permanent insurance commences at a given age and after a given period of service, say, age thirty-five and 5 years. When such purchases start, an increase may be made in the employees' contributions.

A uniform unit of paid-up life insurance may be purchased by single premium each year for the employees affected. For example, the unit may be such a percentage of the employees' total life insurance that approximately one-half of the total insurance will be on a permanent basis if the employee enters the plan not too late in life and continues in the same insurance class to age sixty-five. On other plans of this type the employee's contributions may be used to buy paid-up insurance, so that the unit purchased each year decreases as the paid-up insurance premium rate increases with increase in age. Usually, as the permanent insurance units are bought under either a uniform or a variable unit basis, the term insurance is correspondingly reduced, so that the total coverage for an employee is that shown for his class in the schedule.

Ordinarily, it is contemplated that, at age sixty-five or at retirement, the portion of the insurance that is still on a term basis will be discontinued, the permanent insurance already purchased remaining in force without further premium payments during the balance of the employee's lifetime. The employee then may have the right to apply for an individual policy of life insurance for an amount equal to the amount of term insurance being discontinued, at the premium rate for his attained age.

In order to produce a reasonable amount of permanent insurance at age sixty-five for the older employees when the plan is put into effect, provision may be made to purchase permanent insurance on account of the years of service prior to the adoption of the plan.

When an employee for whom permanent insurance has been purchased terminates his employment, he may retain the permanent insurance which has been bought for him by both his own and his employer's contributions and, if he wishes, convert the amount of term insurance being discontinued into an individual policy of life insurance at the premium rate for his attained age, in accordance with the policy provision referred to above. An alternative option may be included under which the employee may take a cash-surrender value based on his own contributions (not including his employer's) in lieu of permanent insurance.

Under the level-premium plans the insurance may be either on the whole-life, endowment, or retirement-income plan, with level premiums payable for life or to age sixty-five. On termination of employment the employee will have certain cash or paid-up privileges and also may have the option of continuing the full amount of insurance in force by paying direct to the insurance company the level premiums based on his age when the insurance was issued for him.

The provision of permanent (rather than 1-year term) insurance under a group plan, whether as paid-up life insurance or insurance on one of the other plans, has created a practical question of whether an employer's contribution to such insurance is taxable income to the employee. Permanent insurance involves the creation of a cash-surrender value, and where an employer pays

for such insurance the employer's contribution may be regarded as equivalent to additional salary or wages. The Treasury Department ruled in 1950 that policy premiums paid by an employer under group permanent life insurance constitute additional income which is required to be included in the gross income of such employees. This ruling has established a tax advantage in favor of 1-year term insurance as compared with group permanent insurance.

**Benefits in Event of Total Disability.** Group-life-insurance policies issued before the latter part of 1932 provided that the amount of insurance would be payable either at death or in the event of total and permanent disability before age sixty. In the latter case the insurance would be payable in installments, usually over a period of 5 years. This disability provision is not now generally included in new policies and has been removed, by agreement with the employer, from many policies issued in the past. The reasons for the elimination of disability benefits are much the same as are discussed elsewhere in connection with total-and-permanent-disability-benefit clauses in ordinary policies. Policies issued during the period 1933 to 1937 provided for the payment of death claims incurred during a period of a maximum of 1 year after termination of employment if the employee had been totally and continuously disabled since the date of termination of employment and death had occurred before age sixty-five. This clause has now been replaced by a provision for the payment of death claims occurring after termination of employment, with no limitation on the duration of time between the termination of employment and the date of death, if the employee becomes totally disabled before age sixty and such disability continues uninterruptedly from the date of termination of employment to the date of his death, provided that evidence of the continuance of such total disability is presented to the insurance company once a year for the entire period of disability. Under such a provision the death benefit remains intact for the benefit of the originally intended beneficiary rather than being dissipated as disability income.

**Cost.** The cost of group insurance on the 1-year-term plan is very low—usually about 1 per cent of the total amount insured.

The actual cost per \$1,000 depends on the nature of the industry and upon the distribution of the employees by age. Even when compared with the cost of temporary insurance when taken by individuals, group insurance is relatively inexpensive. This is partly because a favorable mortality experience is to be expected, but chiefly because of the saving in expenses. The cost of medical examination is eliminated, while the commission payable is at a much lower rate than for individual insurances on the term plan, particularly for large groups, since the rate of commission decreases as the total premium increases. The administrative expenses of the insurance companies are lower than for individual insurances because they have developed and are still developing simplified methods of accounting for large numbers of items on a grouped basis.

The minimum rates of premium in the case of companies operating in the state of New York have been regulated by law since 1926 in order to keep the companies from accepting group business at inadequate rates in the course of competitive bidding. These minimum rates apply to both participating and nonparticipating policies. However, in the case of nonparticipating companies, the policy usually calls for periodic adjustments of premiums on an experience basis, and participating policies have provisions for rate changes as well as dividends, so that the use of the same premium rates for both classes of policies does not involve any inconsistency. Extra premiums are charged at issue for special occupational hazards in a few industries. These extras and the basic premiums themselves are merely the *initial* rates upon which the policy is issued, the cost thereafter being determined either by dividends or by premium revisions.

The original scale of minimum premiums for group life insurance adopted by New York in 1926 remained in force until July, 1950. It was based on the American Men Mortality Table with interest at  $3\frac{1}{2}$  per cent with a small expense loading. These premiums were known as "T rates." In view of (1) improvement in mortality, (2) reduction in interest earnings, and (3) reduction of the minimum number of lives which could be insured under a group policy from 50 to 25, a new scale of minimum premiums was



made effective July 1, 1950. The basis of the new minimum premium scale is the C.S.O. Table with interest at 3 per cent. Since the expense rate per \$1,000 is higher on small than on large groups, an additional expense loading is specified for the first \$75,000 of the total insurance. The minimum rate is, therefore, higher for the first \$75,000 than for any additional amount of total insurance under a group, whereas under the T rates the premiums per \$1,000 were the same irrespective of the total amount of insurance. Table 14-2 illustrates the difference between the old and new minimum initial premiums.

TABLE 14-2. MINIMUM INITIAL ANNUAL PREMIUM RATES PER \$1,000  
(1-year-term group life insurance, New York)

Age	1926 rate (T rate)	1950 rate	
		First \$75,000	Amount in excess of \$75,000
20	\$ 5 87	\$ 4.43	\$ 2.63
40	7.85	8.50	6.70
60	29.39	30 62	28 82

The premium for group insurance may be paid by the employer (or other policyholder) annually, semiannually, quarterly, or monthly. Where the premium is paid annually the cash adjustments on account of terminations and new employees are made annually or periodically (usually monthly) throughout the year. Where the premium is paid at shorter intervals, as monthly, these adjustments are made on the premium-due dates, the premium payable being based on the net amount of insurance in force on the due date of the premium.

When the group policy is issued on a contributory basis, it is desirable that the employee's contribution should be on a level basis for each \$1,000 of insurance (i.e., not increasing with age) and also that the amount paid by any employee should not be substantially greater than the full cost. Since it is impracticable to vary

the employee's contribution according to age, this means that the maximum contribution payable by any employee must be regulated with reference to the rate of premium payable at the lowest age. The usual rule for policies on the 1-year-term premium basis has been that the maximum rate of contribution payable by any employee in a standard occupational group shall be not more than \$0.60 per month per \$1,000 of insurance. Under a reduced scale of premiums a lower employee contribution will be appropriate.

The total initial premium payable by the employer is calculated by adding together the individual premiums obtained by multiplying the amount of insurance on the life of each employee by the premium rate at his attained age. From this total initial premium an average premium per \$1,000 is calculated upon the basis of which all adjustments for new entrants and termination during the year are made, irrespective of the actual ages of the individual new employees or of employees terminating service. At the end of each policy year a new average premium is ordinarily determined, based on the age distribution at that time.

In estimating the total amount of premium payable it would not be correct to apply the rate of premium for the *average age* to the total amount of insurance. The following illustration, taken from the group manual of one of the principal companies, illustrates how serious the error involved in this procedure might be. A group of nine persons are insured for \$1,000 each, the premium being as follows:

Age	1-year-term premium per \$1,000 (first \$75,000 basis)	
15	\$	4.13
20		4.43
25		4.92
30		5.66
35		6.77
40		8.50
45		11.13
50		15.15
55		21.29
Total of ages, 315	Total premium,	\$81.98
Average age, 35	Average premium,	\$ 9.11

The average premium corresponds to an age more than 6 years higher than the average age. This is because the rate increases more rapidly as age increases.

It may be noted that the total premium cost where each employee is insured for the amount of his annual *salary* will be greater than where the insurance is a flat amount for each employee, if the total amount of insurance for the whole group is the same. This is because on the former basis the larger amounts of insurance are issued, in general, on the lives of the older employees, for whom the premium rates are higher. The same considerations apply where the amount of insurance is made to depend on length of service.

When the policy is effected, a *census* is taken of all employees eligible for insurance who are to be included in the policy. The *initial coverage*, or total initial amount of insurance, is ascertained in accordance with the formula of insurance to be adopted, and the initial premium payable is obtained as indicated above.

*Adjustment of Rates.* The policy contains a provision for adjustment of the premium rates. The original premium rates are guaranteed against increase, sometimes during the first 5 years of the policy, but usually during only 1 year. Rates may be increased on any anniversary after the original guarantee period has expired. Increases in rates may not be made retroactive. On level-premium group permanent plans the increased rates would generally be applicable only to employees becoming insured after the original guarantee period had expired or for subsequent increases in amount on other employees.

Under participating policies, dividends are usually payable annually. Under nonparticipating policies, the premium rates are subject to retroactive reductions based on experience, with refunds payable to the policyholder. Dividends or retroactive rate reductions are payable, when earned, to the employer, who may apply them to reduce his contribution to the cost of the insurance or may use part or all of them for the benefit of the employees. If any such dividend or refund exceeds the employer's contribution to the premium, any such excess is applied by the employer for the benefit of the employees, as the laws of several states require.

In determining dividends and rate reductions, the mortality ex-

perience of the specific group and the mortality experience of the company's group business as a whole are usually taken into account; sometimes, also, the mortality experience in the industrial class to which the group belongs is considered.

*Substandard Groups.* Where a group is composed either entirely or partly of persons subject to extra hazard, an extra premium is necessary. For insurance on the 1-year-term plan, the extra premium required is merely the amount necessary to meet 1 year's excess of claims over the normal number (except in industries where an extra premium is necessary because of a catastrophe hazard) and will represent approximately the difference between the expected and tabular rates of mortality. For practical purposes it is generally assumed that the extra premium required is the same at all ages. Where only a portion of the total number of employees is subject to the extra hazard, a modified extra premium is calculated, which is applicable to the group as a whole. Thus, if 25 per cent of the persons in a group are subject to an extra hazard which would necessitate an additional premium of \$4 per \$1,000 insured (the remaining 75 per cent not being subject to extra hazard), the whole group is insured at a rate of premium increased by \$1 per \$1,000. In such a case all employees in a contributory group would pay the same rate of contribution. This avoids the necessity of distinguishing between different classes of risks in the same group in making monthly, or other, premium adjustments.

Thus, in general, rates for group insurance are on the basis of industry and not according to individual occupational groups within an industry. This simplifies the practical handling of details very considerably.

**Terms of the Policy and Certificates.** Most of the important provisions of group-life-insurance policies have been mentioned in the foregoing paragraphs. In addition to these special provisions, group policies contain such of the customary standard policy provisions as are applicable to group insurance.

The model law proposed by the National Association of Insurance Commissioners in 1954 provides for the following standard provisions in group policies on the 1-year-renewable-term plan:

(1) A provision for a grace period of 31 days in payment of premiums

(2) A provision that the policy shall be incontestable after 2 years, except for nonpayment of premiums

(3) A provision that a copy of the application shall be attached to the policy and that all statements made by the policyholder or by the persons insured shall be deemed to be representations

(4) A provision setting forth the conditions, if any, under which the insurance company may require evidence of the insurability of an employee eligible for insurance

(5) A provision for the method of adjustment of either premiums or benefits in event of misstatement of age (in group insurance it is more practicable to adjust the premiums payable than to change the amount of insurance)

(6) A provision that the amount of insurance shall be payable to the beneficiary designated by the employee and that, if there is no beneficiary designated, the company may pay up to \$500 to any person appearing to be entitled thereto by reason of having incurred funeral or other expenses incident to the last illness of the insured

(7) A provision that the company will issue a certificate to each insured employee stating the insurance benefit, the beneficiary, and the rights and conditions specified in provisions (8), (9), and (10) following

(8) A provision that, upon termination of employment, the insured may elect within 31 days to take, without medical examination, a policy on a plan other than term insurance for the amount of group insurance terminated, at the regular premium rate applicable to his then age

(9) A provision that, if the group policy is terminated after having been in force for least 5 years, an employee who has been insured for at least 3 years shall be entitled to take an individual policy on the same basis as under provision (8) but not exceeding the smaller of (a) the amount terminated less the amount of any new or reinstated group insurance effected within 31 days and (b) \$4,000

(10) A provision that if an employee dies during the period within which he would have been entitled to have an individual policy issued to him under (8) or (9) and before any such individual policy has become effective, the amount of such life insurance to which he would have been entitled shall be payable as a claim under the group policy whether or not application for the individual policy or the payment of the first premium therefor has been made

Provisions (6) to (10) do not apply to policies issued to a creditor to insure debtors. An additional provision (11) is limited to such policies and requires that the insurer furnish the policyholder for delivery to each debtor insured a form stating that the debtor is insured and that any death benefit paid shall be applied against the indebtedness.

The provision giving withdrawing or retiring employees the right to obtain permanent insurance at the rate applicable to the age attained at termination of service is of tremendous value to the employee who is uninsurable at that time. The fact that such insurance as is converted shows a very high mortality—several times the tabular rate—is evidence that it fills a vital need, even though comparatively few employees take advantage of this option. The much higher cost of the converted insurance, particularly at advanced ages, when compared with the contribution for group insurance, no doubt prevents many from taking it.

Other provisions usually found in a group policy are as follows:

A provision that employees whose employment is temporarily suspended because of sickness, a reasonable period of temporary layoff, or other similar reasons will remain insured if the employer continues payment of the premium

A provision for payment of the insurance in installments instead of in a single sum if so elected by the employee or his beneficiary

A provision that the insurance of an employee shall not be invalidated because of the employer's clerical error in omitting to notify the insurance company that the employee had become eligible.

**Economic Aspects.** There is no doubt that group insurance has many economic advantages from the point of view both of the employer and of the employee. It gives additional incentive to permanency of employment. When such a plan is introduced, it may be combined with an existing pension plan or with existing arrangements for payment of sick benefits, or where these do not exist, they may sometimes be introduced at the same time by means of group-annuity, group-sickness-and-accident, group-hospitalization, or group-surgical-operation policies. These others forms of group insurance are very often issued with group life insurance as a complete program of insurance protection for employees.

Group life insurance is the best means of making a definite provision for the dependents of employees and is much more satisfactory to all concerned than a voluntary contribution from the employer or from the other employees to meet the immediate needs of the family of a deceased employee where some assistance is necessary.

**Extent and Progress of Group Insurance.** Table 14-3 indicates the extent and progress of group insurance to the end of 1955.

TABLE 14-3. GROUP LIFE INSURANCE  
(Amount of insurance in force in the United States and Canada, Dec. 31)

End of year	Amount (in millions of dollars)	Per cent of all life insurance in force
1912	\$ 13	0.1
1917	349	1.2
1922	1,893	3.6
1927	6,653	7.2
1932	9,619	8.7
1937	13,568	11.7
1942	20,710	14.9
1947	34,905	17.1
1952	71,733	24.3
1954	99,651	27.9
1955	107,661	27.0

SOURCE: *Life Insurance Fact Book, 1956*, Institute of Life Insurance, New York; and *Canadian Life Insurance Facts 1956*. Canadian amounts apply to federally registered companies.

Except during the depression years in the early 1930s, when all forms of life insurance showed a decrease in the total amount in force, the volume of group insurance has steadily increased and, as shown in the table, now accounts for more than one-fourth of all life insurance in force—ordinary, group, and industrial.

Considering the catastrophic decrease in employment during the depression of the 1930s, it is remarkable that, at the low point of the depression, group life insurance in force was only about 10 per cent below the previous maximum. This was due partly to the fact that employers as a whole adopted the generous course of continuing to pay premiums on the insurance for many of the employees laid off for lack of work. Furthermore, only a very small percentage of the group insurance in force was discontinued because of termination of entire master policies by employers.

### GROUP ANNUITIES

A *group-annuity* contract provides for the payment of an annuity or pension to the employees of an employer with whom the contract is made. Such contracts take the place of individual retirement systems operated by the employer and undoubtedly form a much more satisfactory basis for old-age provision. Individual retirement systems, except in special circumstances, may be unsatisfactory because of the absence of a sound financial basis, because of the lack of permanence of the average industrial corporation, or because of lack of expert knowledge on the part of those charged with the administration of the pension funds.

The first group-annuity contract in substantially the present form (master policy and certificates) was issued in 1921. For some years the total number of such contracts issued was small, but in recent years there has been a considerable expansion in the volume of group-annuity business, and at the end of 1955 there were more than 5,000 contracts in force covering over 3 million employees. Some of the individual contracts which have been issued are for very large amounts, involving many thousands of employees and correspondingly large premium payments.

The general basis of operation is the same as for group insur-



ance. The contract is made between the insurance company and the employer to whom the policy is issued, the employees receiving certificates of their inclusion in the plan, while premiums are paid to the company by the employer. There are many special features in a group-annuity contract quite different from anything in group term insurance, since the accumulation of funds for the payment of deferred annuities is radically different from a provision for temporary life insurance.

When a group-annuity plan is presented to the employees, a more or less elaborate announcement form is printed to give them an explanation of the working of the plan as it affects their rights and benefits.

**Contract and Rules.** The principal features of the rules now generally adopted for the issue of typical group-annuity contracts and the usual terms of such contracts are stated in the following paragraphs.

*Number of Lives and Employees Eligible.* Eligible employees are those with a stated minimum period of service, usually 1 to 5 years, who are not over the normal retirement age. The usual rule is that not fewer than 10 lives may be included and not less than 75 per cent of those eligible must subscribe. The chief purpose of these requirements is to ensure that a sufficient number of employees will be covered to make the contract economical to administer. The insurance company may reserve the right to terminate the contract (i.e., to cease further issue of annuities) if the number drops below the minimum requirements.

Employees already at or over the retirement age may be provided for by the purchase of immediate annuities.

All employees or all of any class or classes determined on the basis of conditions pertaining to employment may be included.

*Retirement Age.* The normal retirement age is generally sixty-five. Other retirement ages may be permitted, which generally are not beyond age seventy.

*Annuity Based on Service Rendered after the Adoption of the Group-annuity Plan.* The total annuity usually depends upon the salary and length of service (*unit-benefit plan*). It is usually a percentage (1 to 2 per cent) of the employee's average salary for

each year he is covered under the plan. In many cases the employee helps to pay for this annuity, and his contribution is generally a percentage of salary (2 to 5 per cent).

Where the employees are covered under the federal Social Security Act, the benefit applicable to the portion of earnings with respect to which social-security benefits are provided is usually adjusted so that, together with the benefits contemplated by the Act, there will be produced a total retirement income to the employee approximating a fixed percentage of his salary multiplied by the number of his years of future service up to retirement. In some cases the benefit may be expressed as a specified percentage of average earnings times years of membership in the plan, less the amount of the social-security benefit, although this type of adjustment for social security is more frequently found in deposit administration or trustee types of plans described later.

*Premiums.* The payments made to the insurance company for the purchase of group annuities are frequently called "stipulated payments" or "considerations," but for convenience they are referred to here simply as *premiums*.

The employer pays the balance of the premium over and above the employee's contribution. The annuities are nearly always purchased by applying the amount of each year's total premium to the purchase of a *single-premium deferred annuity* equal to the annuity credited to the employee on the basis of that year's salary. (The *level-annual-premium basis* is seldom used.) In this way the contract is always "paid up" for the amount of annuity credited to the employee with respect to service rendered since the date of adoption of the plan. This practice simplifies all dealings in regard to terminations of employment, changes in salary, etc.

Since the employee's contribution does not change from year to year as the employee gets older and as the premium increases, the employer's part of the total premium is smaller for the young employees than it is at the higher ages. Some idea of the cost of a typical group-annuity plan and of the relative parts paid by the employee and employer is given in Table 14-4, which is based on the current premium rates of one of the principal companies.

TABLE 14-4. ILLUSTRATION OF APPROXIMATE COST OF A GROUP-ANNUITY PLAN\*

(Monthly premiums for an annuity of \$1 per month for each year of future service, commencing at sixty-five)

Attained age at time premium is paid	Male employees			Female employees		
	Em- ployee's contribution	Em- ployer's contribution	Total	Em- ployee's contribution	Em- ployer's contribution	Total
20	\$3 00	\$0 70	\$ 3 70	\$3 00	\$ 1 58	\$ 4 58
30	3 00	1 74	4 74	3 00	2 87	5 87
40	3 00	3 10	6 10	3 00	4 55	7 55
50	3 00	4 96	7 96	3 00	6 79	9 79
60	3 00	7 85	10 85	3 00	10 07	13 07

\* These rates are on a basis of no interest on refund of employees' contributions at death or withdrawal. The costs may also include a flat dollar additional amount each year for administrative expenses, usually on contracts covering groups of smaller size.

*Annuities on Account of Past Service.* The employer may, and usually does, purchase at his own expense annuities corresponding to service rendered prior to the date of issue of the group contract. The cost of such annuities usually consists of the total amount of the single premiums needed to purchase, say, 1 per cent of *present* salary for each year of past service for each employee. Sometimes only service after a specified age is included. If past service were completely omitted, any practicable plan would result in inadequate annuities for those employees who had already reached the higher ages when the plan was adopted. The inconvenience of making the large outlay involved in paying for past-service annuities at one time is usually taken care of by providing that the purchase of these annuities may be spread over a period of years.

*Guarantee of Premium Rates.* Premium rates are usually guaranteed for 5 years. After the expiration of the initial 5-year period, the premium rates are usually subject to change each year. No

changes, of course, would affect annuities already purchased. It is also usual to reserve the right to change other policy provisions (such as withdrawal and option values) except in respect to annuities purchased before date of change.

*Payments in Event of Death.* In event of death prior to the retirement age the employee's contributions are returned, usually with interest although occasionally without interest, according to the type of plan. The employer's contributions are not returned, since the employer's contribution rates are calculated on a regular deferred-annuity basis without provision for refund in case of death.

*Payments in Event of Withdrawal.* When the employee leaves the service of the employer, he may usually elect either (1) a paid-up deferred annuity in such amount as his own contributions have purchased or (2) a return of his contributions with or without interest according to the type of plan.

It is almost always now arranged that in event of withdrawal after the fulfillment of certain conditions, such as attainment of a specified age or completion of a specified period of service or a combination of such conditions, the employee who does not withdraw his contributions will be entitled not only to the paid-up annuity purchased by his own contributions but also to the paid-up annuity purchased by the employer's contributions.

When an employee leaves the service in good health, but not otherwise, a return is allowed the employer. When this is applied by the employer against the employer's portion of considerations due under the contract, it is usually equal to 96 per cent of his contributions with interest less a charge equal to 4 per cent of the employee's withdrawal value. There is a growing trend toward eliminating such charges, and some insurance companies now credit the full employer contributions without making any charge, while others make a charge only if the employer has contributed less than 5 years.

When interest is allowed in connection with death benefits and withdrawal values, the rate is now usually 2 per cent.

*Dividends.* In participating policies, provision is made for dividends which are payable in cash or may be applied in reduction of premium. In contracts issued by stock companies the same

result is obtained by providing for an *experience credit*, which is equivalent to a dividend.

*Effect of Social Security Act.* The effect upon group-annuity business of the passage of the Social Security Act in 1935 has borne out the predictions which were then made—that this Act would not replace group annuities and would in fact tend to open a new field for sale of group annuities to supplement the benefits provided by the Act so as to provide amounts reasonably corresponding to salary. There has been continued and well-maintained growth in group-annuity business throughout the period since the Act became effective.

*Deposit-administration Plans.* In recent years many retirement plans have been established on a noninsured basis with a bank acting as the trustee of the retirement fund. Some insurance companies issue a deposit-administration group-annuity plan which combines some of the characteristics of such a trustee type of plan with some of the features of group annuity plans as just described. The deposit-administration group annuity is particularly adaptable to retirement plans where the normal retirement age is flexible or the level of benefit is not determinable until retirement, such as plans where the benefit is based on earnings at or near retirement or where the formula benefit is reduced by any social-security payments.

Under a deposit-administration contract, the contributions of the employer and the employees are held in a deposit fund on which interest credits are allowed by the insurance company. At the time of retirement of an employee, there is withdrawn from such fund an amount sufficient to purchase the retirement-annuity benefits of such employee on the basis of a rate schedule which is part of the contract. Accordingly, no purchases of annuities would be made on account of employees who die or otherwise withdraw from the plan prior to retirement.

The amount of the deposit fund is generally determined on the basis of actuarial estimates made from time to time either by the actuaries of the insurance company or by actuaries retained by the contract holder, subject to any specific contractual limits which may be placed on the size of such fund. Generally deposit-ad-

ministration contracts include the usual provisions for dividends or experience credits, but under some contracts now written on large groups the cost is directly determined on the basis of the net earned interest rate of the insurer and the actual year-to-year mortality and expense under the contract.

*The Internal Revenue Code.* The Internal Revenue Code (beginning with the Revenue Act of 1942) provides that employer contributions to group-annuity plans within certain limits may be deducted as a business expense in computing the employer's income and excess-profits tax, provided that the contributions and benefits under the plan do not discriminate in favor of employees who are officers, shareholders, supervisory, or highly compensated employees. Under the same circumstances the employer contributions do not constitute taxable income to employees until disbursed to them under the provisions of the plan.

Extensive regulations have been issued by the Internal Revenue Service governing the determination of nondiscrimination. These regulations provide in general that at least a certain proportion of the employees be covered and that the benefits provided under the group-annuity contract together with those available under the Social Security Act cannot be less favorable in relation to salaries for lower-paid employees than for those in the higher salary brackets.

This legislation seems to have stimulated interest in sound group-annuity plans, since the tax exemptions involved are substantial and since the regulations include many requirements in agreement with principles of sound underwriting, which the insurance companies have applied in connection with group-annuity plans.

### REVIEW QUESTIONS

1. Describe briefly the essential features of group life insurance as distinguished from ordinary (individual) insurance. What are the advantages of group insurance (a) to the employer? (b) to the employee?
2. What is the difference between a contributory and a noncontributory plan? State some advantages and disadvantages of each.
3. State the reasons why an employee group is the most suitable for group insurance. What other types of groups are now permitted?

4. What different methods are used for determining the amount of insurance on individual employees?

5. Explain why, in a contributory plan, the same contribution per \$1,000 of insurance by each employee, irrespective of age, is appropriate.

6. Describe briefly two plans for group insurance which are based on the purchase of permanent insurance as distinguished from 1-year term insurance.

7. What are the advantages to an employer of making a group-annuity contract with a life-insurance company as compared with establishing a self-administered pension plan?

8. Under a typical group-annuity contract, what is the usual basis for determining the amounts of pension provided? How is the cost generally allocated between the employer and the employee?

9. How is the part of the pension in respect to service before the effective date of a group-annuity contract provided for?

10. What is the usual provision for payments by the insurer on death or withdrawal of an employee before reaching pension age?

11. Explain the nature of a deposit-administration plan.

Industrial Insurance<sup>1</sup>

Industrial insurance is the business of insuring for small sums under policies providing for weekly, or sometimes monthly, premiums. It is carried on chiefly among the industrial or wage-earning classes. Many of those belonging to the industrial classes, the majority of whom are paid weekly, either cannot afford to carry ordinary life-insurance policies subject to annual, semiannual, or quarterly premiums for amounts which the companies are prepared to issue or cannot adapt their budgets to meet the larger payments due at such intervals. By furnishing insurance in small units and receiving premiums weekly or monthly, the system of industrial insurance supplies life insurance which meets the circumstances of such persons. Children, as well as adults, are insured. With minor exceptions, industrial policies are for less than \$1,000, the average policy of current issue being for about \$500.

The laws of a number of states define industrial life insurance in substance as "that form of life insurance, the policies for which include the words *Industrial Policy* as part of the descriptive matter; and (a) under which the premiums are payable weekly, or (b) under which the premiums are payable monthly or oftener, but less often than weekly, if the face amount of the insurance provided in such policy is \$1,000 or less."

While the main characteristic of industrial insurance is insurance of small sums with premiums usually payable weekly, there are other distinctive features. The premium is normally collected at



the home of the policyholder by an agent of the company. The premium tables usually show the varying amounts of insurance obtainable on each plan of insurance and at each age for weekly premiums of stated amounts, such as 5, 10, or 25 cents. There has, however, been some tendency in recent years to adopt the sum insured as the unit, at least for the larger amounts of insurance.

Insuring age is determined on the basis of the *next* birthday, rather than *nearest* birthday as in ordinary insurance. Industrial policies with monthly (instead of weekly) premiums were introduced by the Metropolitan Life Insurance Company in 1927, soon after the adoption of the monthly-premium basis for ordinary policies and the collection of such monthly premiums by agents at the policyholders' homes. These (industrial) policies are now issued mainly for \$500 or \$750, although policies for smaller amounts are issued on the 20-year endowment plan.

Industrial insurance is sometimes called "family insurance" since it is written on all members of the family from birth to age sixty-five or seventy. Only a small proportion of ordinary insurance is on the lives of children, although in recent years, increasing attention has been given to the writing of such insurance. In New York State a life-insurance policy may be issued only upon the application or with the written consent of the person insured, whether the latter is a minor or not, but exceptions are made in the case of a husband and wife, and in the provision that a limited amount of insurance may be taken on the life of a child under the age of fourteen years and six months by a person liable for the child's support. Formerly, insurance could not be effected in some states on the lives of children below the age of one year, but all such limitations have been removed, so that now insurance may be issued in all states on the lives of children from birth. Industrial policies on the lives of children generally provide for increasing amounts of insurance during the early years. For example, for a weekly premium of \$0.05 the "life-paid-up-at-sixty-five" policy of one company, issued at age one, provides insurance of \$48 in the first year, increasing to \$162 in the fourth and subsequent years.

Because of the small amount of the premium received, a medical examination is usually not required, the policy being written on

the nonmedical basis. For the most part, the company relies on the information contained in the application, including a statement by the agent. An examination may be called for, if considered necessary—as at the higher ages or where there is a question about the applicant's physical condition—but, for financial reasons, such an examination must be much less detailed than that required for ordinary insurance. The company has some additional protection in the provision that, subject to the terms of the incontestable clause, the policy is voidable by the company under certain conditions.

Partly because of the absence of medical selection, but more particularly because of the broader base for "standard" insurance and the higher death rates generally prevailing in low-income groups, industrial insurance is subject to a higher rate of mortality than ordinary insurance. As has been the case with the general population and with ordinary policyholders, the rate of mortality among industrial policyholders has shown a reduction, especially since about 1935. Moreover, industrial mortality has decreased somewhat more rapidly than ordinary mortality. A general indication of the difference may be gained from the experience of one large company, which, a few years ago, substantially broadened its "standard" classification to include the entire underwriting range for its industrial weekly policies. On the basis of its present (1957) mortality classification industrial mortality is about 16 per cent higher than standard ordinary mortality.

**Plans of Insurance.** Industrial policies are issued on several plans of insurance although, because of their smaller size, not on as many plans as ordinary policies. A life policy with premiums payable to an advanced age such as sixty-five, seventy, or seventy-five and a life policy with premium payments limited to 20 years are issued by most companies.

Industrial 20-year-endowment policies have also been very popular, especially for insurance on the lives of children. Endowment policies (except those maturing at age sixty or older) are no longer issued on the weekly-premium basis, however, by the three largest companies. The reduction in the rate of interest that can be earned on invested funds has made it advisable to

issue such policies only on the less costly monthly-premium basis. Monthly-premium 20-year-endowment insurance is issued for amounts as small as \$250, either as industrial or ordinary. Since 1938, New York has not permitted the sale in that state of endowments as industrial policies, but since 1942 has permitted the sale of monthly-premium endowments of less than \$1,000 as ordinary policies, without provisions for policy loans or dividend options. There is no significant difference between these ordinary policies and industrial monthly-premium policies.

**Premium Rates.** In general, weekly-premium policies are written in the larger companies only on low-premium plans; in amounts of not more than \$750; and, at ages one through nine, for premiums not over \$0.25 a week. Weekly-premium policies cost more than monthly-premium policies, and the rules of the companies are intended to limit weekly-premium insurance to those cases where it is suitable and necessary.

Specimen weekly and monthly premium rates currently used by one of the large companies are shown in Table 15-1. The

TABLE 15-1. LIFE-PAID-UP-AT-SEVENTY-FIVE POLICY

Age at issue	Weekly-premium policy, amount of insurance for weekly premium of \$0.05	Monthly-premium policy, monthly premium per \$750 insurance
20	\$104	\$1 44
30	79	1.89
40	57	2 64
50	38*	3.90
60	23†	6 45†

\* Weekly-premium policies are not issued by this company for less than \$50 insurance. If amount purchased by \$0.05 premium is less than \$50, a multiple of \$0.05 is required.

† At age sixty, the maximum amount of insurance that will be issued on this plan is \$500.

premiums were computed so that the premium per year when payable monthly would be 10 per cent less than the premium per

year when payable weekly. These premium rates are for participating policies, and the cost of insurance is decreased by any dividends declared by the company; the rates include the cost of the double-indemnity and disability benefits provided by the policies.

The premiums for weekly or monthly industrial policies are, of course, higher than for standard ordinary insurance. This higher cost results from both the higher rate of *expense* and the higher rate of *mortality*. It is often erroneously assumed that the higher cost of industrial insurance is entirely due to the greater rate of expense.

**Expense.** The greater *expense* of industrial insurance is due almost entirely to the cost of the additional service to the policyholder by having the premiums collected in small amounts at short intervals at his home. An analysis of the expenses in one large company showed that about 90 per cent of the excess of industrial over ordinary expenses was due to this additional service to policyholders. Some companies, including the three largest, offer the policyholder a refund of 10 per cent of the weekly premiums if payment is made direct to the company for at least a year.

Many types of expenses are necessarily greater where the unit of insurance or of premium is small, but such increased costs are very largely offset by simplified methods of operation, including the system of premium accounting used, elimination of certain procedures and records customary or necessary for ordinary insurance, and simplification of the contract—as by the omission of dividend options and, generally, provisions for optional modes of settlement.

The difference in total expense charges between the two branches is in fact remarkably small. For instance, a study of one company's business, made by a state insurance department in the 1930s, indicated that for holders of weekly-premium industrial policies who took advantage of the 10 per cent refund for direct payment of premiums the expense charge exceeded that for monthly-premium ordinary policies by only about 3 per cent of the premiums. For those who preferred to use the agent's service when paying pre-

miums, the expense charge exceeded that for monthly-premium ordinary policies by about 13 per cent of the premiums. For monthly-premium industrial policies, the expense rate is about the same as for monthly-premium ordinary policies.

Despite increased expense in the postwar years, and the introduction of many additional services to policyholders, the expense rates of industrial insurance are materially lower than they were at the turn of the century. In one of the large companies the expense rate for weekly-premium business on which premiums are received by agents has been reduced by about 15 per cent since the early 1900s. The reduction for its total industrial business, including monthly-premium policies and those on which premiums are paid direct to the company, is substantially greater.

**Mortality.** The second reason for the higher cost of industrial insurance is the higher rate of mortality experienced among those insured.

There are two main reasons why the mortality rate is higher among industrial than among ordinary policyholders. One is that industrial insurance is written largely on persons in the low-income groups, which are subject almost without exception to a higher death rate—at all ages, for both sexes, and in respect of every important cause of death. The other reason is the different basis and methods of selection. Not only is there usually no medical examination for industrial insurance, but the limits of classification for such insurance at standard rates are wider and are intended to include the great majority of those applying for insurance.

**Lapse.** One of the criticisms sometimes directed against industrial insurance is that there is an excessive rate of lapse, with consequent loss or added cost to policyholders. This criticism overlooks or ignores some important facts. All forms of voluntary financial programs are subject to a relatively high "nonpersistence" rate—human nature being what it is—particularly in the early stages, so that a certain amount of early lapse is unpreventable and inevitable. Every effort is made, however, to induce policyholders to keep their insurance in force. The system of compensating agents and district managers is such that it is to their

interest to prevent lapses. Furthermore, agents are instructed not to oversell, and some companies have established definite procedures designed to avoid issuance of insurance calling for premium payments out of proportion to the family income.

As a matter of fact, the lapse rate is not excessive. The experience of one large company during 1954 showed that only 9.2 per cent of the weekly premiums issued lapsed within the first 6 months. Of the premium remaining in force for that period only 5.6 per cent lapsed during the next full year, while thereafter the yearly lapse rate averaged 3.6 per cent.

A more important point is that these "lapses" included *all* premature terminations of premium payments and that in a large proportion of them the insured received either a cash value or some form of continued insurance protection. Criticisms relating to lapses often imply that the premiums paid by the lapsing policyholder represent a total loss. Even on policies which lapse before premiums have been paid long enough to provide a nonforfeiture value, the policyholder has received insurance protection and other service while the policies were in force on a premium-paying basis. The percentage of the total premiums paid on all terminated policies which is paid on policies lapsing without any cash or insurance value is extremely small—less than 1 per cent. Many "lapses" occur, moreover, not because of inertia or inability to pay premiums, but because the insurance has served its purpose and the policyholder prefers to take the cash value or the paid-up insurance benefit. It is therefore a mistaken idea that the rate or volume of terminations, other than by death or maturity, is a measure of the extent to which the insurance issued has failed to serve its purpose.

**Terms of the Policy.** An industrial-insurance policy differs in some important respects from an ordinary policy. Some of the more important distinguishing features of industrial policies as currently issued are explained in the following paragraphs. The terms of the policy are, of course, not the same in all companies. These paragraphs indicate general practice, particularly in the large companies.

**Option to Surrender within 2 Weeks.** The policyholder may, if not satisfied, return the policy within 2 or 3 weeks of its date of

issue and have his premiums refunded. In that event he receives free insurance from the date of application until cancellation.

*Beneficiary and Facility of Payment.* Industrial, like ordinary policies, now commonly provide for naming a beneficiary. However, provision is made that if the beneficiary named in the policy does not submit claim within a certain period (30 or 60 days) after the death of the insured, or if the beneficiary is the estate of the insured, is not legally competent, or dies before the insured, the death benefit may be paid under the *facility-of-payment* clause. This clause permits the company to make payment to the executor or administrator of the insured, or to a named beneficiary, or to any relative by blood or connection by marriage of the insured appearing to the company to be equitably entitled to such payment. It has as its object simplification of the relations between the insured or claimant and the company and often renders possible equitable payment of claims without undue expense or delay.

*Assignment and Loans.* Industrial policies in the majority of companies specifically prohibit assignment. This helps to forestall the efforts of unscrupulous persons who might otherwise profit at the policyholder's expense from dealing in industrial-insurance policies, eliminates legal complications and the necessity of examining title, and reduces the possibility of speculative insurance. In at least two large companies assignments are permitted provided that the assignee is a national bank, state bank, or trust company. This is in accordance with the requirements of the insurance law of New York for policies issued in that state.

Because of the small amounts involved and the expense of handling, industrial policies seldom provide for loan values.

*Payment of Premiums at the Company's Office.* Although receiving of premiums by an agent of the company at the home of the insured is a distinctive feature of this class of business, this method of receipt is not specifically provided for in the policy.

The policy contracts of a number of companies, including the largest ones, give the insured the option of paying weekly premiums direct to the company instead of to an agent, a refund of 10 per cent being made to policyholders making payment in this way, provided that they do so for a stated minimum period. In

this way the additional cost of industrial insurance may be substantially reduced.

*Reinstatement.* The conditions under which the policy may be reinstated after a lapse are liberal. As a rule, policies provide that they may be reinstated if payment of premiums has not been discontinued for more than 1 or 2 years, if the arrears are paid, and if satisfactory evidence of insurability is furnished; in such cases interest on the premiums in arrears is not charged. In practice, reinstatements are freely permitted when the premiums are in arrears for longer periods, although in such cases the company may charge interest on the premiums in arrears. In the larger companies reinstatement is sometimes allowed without payment in cash of arrears of premium, the amount due becoming a lien against the policy and bearing interest until paid.

*Limitation on Liability.* Although one large company attaches a copy of the application to the industrial policy, thus making the application part of the contract, most companies do not follow this practice. In order to provide a safeguard against improper or fraudulent claims, the policies of these latter companies contain a statement of the conditions under which they may be declared void. The clause contained in the policies of one large company provides that the period during which the policy may be declared void extends for only 1 year if the insured is alive at the end of that period. Within this period the policy is voidable if the insured has within 2 years prior to the date of issue received medical or surgical treatment for a serious condition, unless information regarding such matters is disclosed in the application for insurance so that the policy can be suitably endorsed. If the policy does not take effect or is voided, the company will return the premiums paid.

After 1 or 2 years from date of issue, however, it is usually provided that the contract is incontestable except for nonpayment of premiums. The policies of many companies (including the large companies) contain no limitation on liability in event of suicide.

*Participation in Surplus Earnings.* Where industrial policies are issued on a participating basis, as they are in the large companies, it is not practicable to allow various alternative dividend options such as are required by law in the case of ordinary poli-



cies. To do so would introduce disproportionate expense. Any dividends allotted, while they may be large in comparison with the premium, are necessarily of small amount and are usually in the form of an addition to the amount of insurance or of a number of weeks' premium credit.

*Nonforfeiture Privileges.* Both industrial and ordinary policies usually provide that, if premium payments are discontinued after a specified period, the company will grant a paid-up policy of reduced amount, extended term insurance of the full amount, or a cash-surrender value. One of the first two alternatives is specified as automatic if no election is made by the policyholder.

Under recently issued industrial policies in the larger companies, a nonforfeiture benefit is available automatically after payment of premiums for 26 weeks, and in one of these companies after even shorter duration. Only a very few companies issue ordinary policies in which a nonforfeiture benefit is available so early.

When the nonforfeiture value is small, as in industrial policies on which only a few small premiums have been paid, the added expense of granting it in cash rather than as paid-up insurance is disproportionate. Hence, in companies which grant nonforfeiture benefits after premiums have been paid only a few months, this benefit is available at first only in the form of extended term insurance. However, if premiums have been paid several years, other forms of nonforfeiture benefits are granted.

Cash-surrender values in industrial policies currently issued by the large companies and by some others are guaranteed after 3 years' premiums have been paid. Most other industrial policies provide such values after 5 years' premiums.

*Benefits in Event of Loss of Eyesight or Limbs.* Benefits in event of loss of eyesight or limbs have long been common in industrial policies. The usual disability benefits which may be purchased for an additional premium in connection with ordinary policies would be impracticable in industrial policies for small amounts. A typical industrial benefit provides that, if the insured loses both hands or both feet or the entire sight of both eyes, an amount equal to the face amount of insurance is payable and the policy is continued for its full amount with premiums waived. In event of loss of

one hand or one foot, half the face amount is paid in cash and the full amount is continued with premiums waived. No specific extra premium is charged for these extra benefits, the cost of which is included in the regular premium.

Another distinguishing feature of these benefits in most industrial policies is that the coverage is continued throughout life instead of ceasing at a specified age. The claim rate is heaviest at the higher ages, the great majority of these claims arising from blindness.

*Accidental-death Benefits.* Since about the beginning of 1929, many companies have included in their industrial policies, without specific extra charge, a provision for an additional accidental-death benefit, similar to the double-indemnity benefit available to ordinary policyholders. In the leading companies, at least, the benefit was made retroactive for existing policies. The additional accidental-death benefit will be reduced by any amount paid under the provision for benefit in event of loss of eyesight or limbs as a result of the same injuries.

**Combined Life, Health, and Accident Policies.** Some companies operating mainly in the Southern states issue health-and-accident policies that include a small amount of life insurance. The provisions relating to the life insurance are in general similar to those of regular industrial policies, while the health and accident insurance is usually cancelable. There are several million such policies in force, a large proportion of which are on Negro lives.

**Intermediate Policies.** In order to enable wage earners to obtain insurance at a lower cost than weekly-premium industrial insurance, *intermediate* policies were introduced in the 1890's. These were ordinary policies in amounts of \$500 or more and with provision for quarterly or less frequent premiums. The term "intermediate" has no generally applicable definition or distinctive characteristics at the present time. In one of the three largest companies currently issued policies for \$3,000 or less with premiums received monthly on the debit system (as for weekly-premium policies) are classed as intermediate-ordinary policies. In the other two companies such policies are classed as industrial when the amounts are less than \$1,000.

A rate of premium more favorable than for smaller amounts of insurance is possible where the amount is not less than \$500. Many insurance companies will also issue ordinary policies for as low an amount as \$500, subject to quarterly premiums. In a few companies, the term "intermediate" is also used to denote policies for amounts of \$1,000 or more issued on persons who are not eligible for ordinary insurance at standard rates because of the greater mortality inherent in their occupation, physical condition, etc.

**Administration.** The industrial policyholder receives, in addition to his policy, a premium-receipt book which is signed by the agent when a premium is received. One book contains particulars of the weekly-premium policies on all members of the family. Each agent receives premiums within a geographical area known as a *debit*, which may be a small community or a few blocks in a large city. The whole territory in which the company operates is divided into *districts*, each in charge of a manager or superintendent. The agent maintains a *debit book* and submits a weekly (or monthly) report of premium receipts. No detailed accounting of premium payments on individual policies is maintained in either the home office or the district office. This system results in important economies.

Under the traditional basis of compensation, which, however, has not been used by the larger companies for some years, the agent's remuneration was based on the amount of premiums collected together with a commission on the net increase, i.e., the amount of new premiums less the premiums on lapsed policies. The commission payable on the net increase was usually a certain number of times the increase. This system encouraged the conservation of business, a vital feature from the company's as well as the policyholder's point of view, but had certain serious disadvantages.

In more recent years (largely as a result of the disturbance in agents' earnings during the depression of the early 1930s) the larger companies have adopted new principles of determining agents' compensation. Current contracts basically provide for three separate types of compensation. The principal item is a collection commission based on the amount of premiums received by the

agent. A first-year commission is paid on new business. In order to promote the conservation of business, an additional commission is paid, based on the relative success of the agent in conserving the business under his care and depending on the relative lapse rate of his business as compared with that of the whole company.

In addition to collecting premiums and otherwise servicing existing industrial policies, securing new policies, preventing lapses, and reinstating lapsed business, the agent may write ordinary, group, and accident-and-health business or annuities and may add considerably to his income by such writing.

Districts are arranged so as to economize the efforts of agents. Districts in large industrial centers are the best, since a comparatively large number of policyholders is contained in a small area. The expense of house-to-house calls to collect premiums is therefore minimized.

In each district there are one or more assistant managers or superintendents who assist in the selection of agents and in their instruction in such matters as canvassing for new business, preventing lapses, and attending to death claims. They also inspect the agents' books and personally aid in the securing of new business and in keeping business in force. Their remuneration is generally by salary, with a bonus which depends on such items as the amount of net new business secured and the relative persistency of the business under their supervision. In one large company managers and assistant managers are compensated in part on the basis of a percentage of first-year and conservation commissions paid to agents in the district.

*Welfare Service.* Some companies render to their policyholders valuable service by health-conservation work, including dissemination of information on health topics through special literature, advertising, etc. In addition, at least one company has had a very active part, through both original research and general cooperation, in public-health work throughout the United States and Canada. The work done along these lines has accomplished a great deal in reducing the death rate among industrial policyholders.

**Economic Importance and Growth.** The immense economic importance of industrial insurance may be seen from the fact that

at the end of 1955 the amount in force in the United States and Canada was over \$40 billion. Apart from the fraternal orders, there is no other way many of the wage-earning classes throughout the country may *themselves* secure life insurance in an amount they can afford and on terms which are suitable to their circumstances.

Industrial life insurance was introduced into this country in 1875, when the Prudential Friendly Society (now the Prudential Insurance Company of America) issued its first policy. Since that time the business has steadily progressed. The amount of business in force more than doubled every decade through 1930. During the depression in the 1930s, however, industrial insurance, like other branches, suffered some loss, but there has since been a marked expansion in the business. Presently, however, the volume of industrial insurance in force is slowing in growth and may soon fall off, owing generally to the increased ability of wage earners to purchase ordinary insurance for larger amounts and to increased sales of group insurance. Table 15-2 shows the volume of industrial insurance in force at decennial intervals.

## REVIEW QUESTIONS

1. What are some of the principal distinguishing features of industrial insurance as compared with ordinary life insurance?

2. What insurance plans are generally issued under industrial policies? Why is the number of available plans limited?

3. State some of the reasons why the expense of industrial insurance is necessarily greater than that of ordinary insurance. In what ways are economies in the cost of administration effected?

4. Why are the mortality rates among industrial policyholders higher than among ordinary policyholders?

5. It is sometimes claimed that the lapse rate in industrial insurance is excessive and that this results in loss to policyholders. Discuss this statement.

6. Specify some of the provisions of an industrial policy which are not found in ordinary policies.

7. What two methods are used for allocating dividends under industrial policies?

8. State briefly the usual provisions in an industrial policy with regard to nonforfeiture values.

9. What provisions are sometimes included for disability or double-indemnity benefits?

10. What is an intermediate policy?

## Savings-bank Life Insurance

**Origin and Purpose.** In 1907 a law was passed by the Legislature of Massachusetts empowering mutual savings banks in that state to establish "insurance departments" and to engage in the business of selling life insurance and annuities to residents or those working in the state. Similar laws were enacted in the state of New York in 1938 and in the state of Connecticut in 1941.

The purpose of these laws was to provide a system of low-cost, over-the-counter insurance mainly for the benefit of those who purchase insurance in small amounts. More particularly, the original purpose was to provide a substitute for industrial insurance for the benefit of the low-income classes, which would enable them to purchase small amounts of insurance at lower cost. The reduction in cost under the savings-bank system depends primarily on the elimination of the sales costs incurred by the regular companies, chiefly in the form of commissions to soliciting agents. The banks also claim that a lower cost than in the companies results from lower operating costs, lower mortality, and fewer lapses. Further reference will be made to these points later.

The Massachusetts law was the result of proposals made by Louis D. Brandeis (formerly an associate justice of the United State Supreme Court), who was, in 1905, acting as counsel for a Policyholders' Protective Committee which had been formed as a result of the insurance investigation then under way in New York. The testimony taken in that investigation had emphasized the excessive amounts spent by some of the companies at that time for commissions on new business and had also brought out

the relatively high cost of industrial insurance owing to the system of collecting premiums weekly at the home of the policyholder as well as to the fact that industrial insurance covered mainly low-income groups subject to relatively high mortality rates and was issued generally without medical examination.

The original intention to provide a cheap and efficient substitute for *industrial* insurance is indicated in an article written by Brandeis in 1906, in which he said:

[The] sacrifice incident to the present industrial insurance system [could] be avoided only by providing an institution for insurance which would recognize that its function is not to induce working people to take insurance regardless of whether they want it . . . but rather to supply insurance upon proper terms to those who do want it. . . .

Further reference is made in the same article to the "great need of life insurance for workingmen." The limit placed on the amount of insurance obtainable in each bank also indicates the intention of supplying this need, although it has been stated that there was no intention of limiting the total amount obtainable from more than one bank. Until 1915, when the limit of insurance on one person in each bank was increased to \$1,000, the maximum was \$500. Again, in 1915, the legislature appropriated funds to make known "to those in need of industrial insurance the advantages offered by the . . . savings banks."

The laws of all three states limit the total amount of insurance that may be obtained by an individual from each bank and also the total obtainable from all banks. Policies are issued for amounts as small as \$250, which is lower than is generally issued by the companies as ordinary insurance.

None of the savings-bank systems has ever transacted industrial insurance as that term is usually understood, namely, insurance of small amounts, issued generally without medical examination, and paid for by weekly premiums collected at the homes of policyholders. The Massachusetts banks did originally issue some small policies with monthly premiums, which were called "industrial" policies. Under the savings-bank system a medical examination



is required in most cases. However, under both the Massachusetts and New York systems, insurance is now available in small amounts, and except at the higher ages, on a nonmedical basis as in most of the companies. Premiums may be paid monthly or at less frequent intervals and must be paid at or sent to one of the banks, or may be paid automatically by deduction from a savings-bank account. Industrial policies include certain disability and accidental-death benefits not included in policies issued by the savings banks. These and other facts are important in any comparison of the cost of savings-bank insurance with that of industrial insurance. It should be understood, however, that there never was any intention on the part of the banks to transact industrial insurance on the same basis as the companies, but to substitute for it a system which would eliminate much of the expense necessarily incident to industrial insurance. The savings-bank system undoubtedly provides insurance of small amounts at much lower cost than under industrial insurance, but it does not provide the same service or cover the same classes of people.

In view of the highly technical character of the life-insurance business and the very limited scope of the possible operations of individual savings banks, it would be quite impractical for the individual banks to conduct their life-insurance business entirely as independent units. In general, they operate as units combined in a central organization which provides actuarial, medical, and certain other services and which corresponds somewhat to the home office of a life-insurance company. Each bank, however, issues its own policy contracts, maintains its separate funds, and makes its own investments.

Some of the reasons for the belief that savings banks can appropriately and advantageously undertake life-insurance business are summarized in the following statement taken from the textbook *Savings Banking*, published by the American Institute of Banking:

First, it is said to be a logical extension of the purposes for which savings banks were established, namely, to promote thrift, to encourage foresight and self-help, and to provide needed financial services on an objective, non-profit basis. Life insurance has become the principal medium

of savings for the vast majority of people in the United States. Life Insurance companies are committed to the agency method of merchandizing life insurance. Mutual savings banks have an opportunity to render a needed financial service by making safe protection available to thrifty buyers over the counter at lower cost.

Second, it is a desirable competitive tool which brings in new customers. By adding life insurance, savings banks become the only institutions which can offer complete thrift service. In other words, a savings bank becomes a place where a person can leave his savings, obtain a mortgage, and insure all members of his family. Savings bank life insurance is attracting young people and family groups of modest means in increasing numbers and these customers may be expected to utilize other services of the bank.

Third, savings bank life insurance policyholders are systematic savers who have developed the thrift habit. Regular premium payments are required to maintain their protection in force, which gives them an incentive lacking in keeping up deposits in a savings account. For example, an analysis of the activity of the savings and life insurance departments of the Cambridgeport Savings Bank (Cambridge, Massachusetts) revealed that over a 16-year period 76% of the policies issued were still on the books, while only 26% of the savings accounts opened during the same period remained in existence. In a shorter 7-year period, 89% of the life insurance policyholders were retained, in contrast to 47% of the savings accounts. Furthermore, practically all the policyholders make regular premium payments, while many of the savings accounts still open are practically dormant.

Fourth, it is contended that the rapidly growing insurance departments are not only paying their direct expenses but are absorbing an increasing proportion of the general overhead expenses of the bank, thus benefiting depositors in general. Particularly does this appear to be true in Massachusetts where the system has been in operation for a long period of years and where the savings departments of the banks are considerably smaller than those in New York.

Fifth, besides the increased service which savings bank life insurance offers, savings bankers have personal reasons for advocating it. Savings bank life insurance is a means of increasing the size of their banks, and it opens up new opportunities for the personal development and advancement of individual employees and officers.

Only a minority of the mutual savings banks have taken advantage of the power to establish insurance departments. In Massachusetts, where the system has been in operation for nearly



50 years, as of Jan. 1, 1956, there were 38 banks issuing policies and maintaining insurance departments. Over 130 others, however, act as agencies for the issuing banks. In New York, after 18 years of operation, there are about 50 issuing banks in the system. In Connecticut, after 15 years of operation, there are about 10 issuing banks. Size of bank and location affect these figures, apart from any other considerations.

Bills for the establishment of savings-bank life insurance have been introduced in a number of other states but have not been enacted. Such bills have, in the past, been opposed by the life-insurance companies, mainly on the ground that these earlier bills were discriminatory in that, under their provisions, the insurance departments of the banks were not made subject to the same conditions and requirements as the companies. More recently, proposed bills have generally provided for the same requirements and conditions as apply to the regular companies. The most active opposition has, naturally, come from the state and national organizations of life-insurance agents, which object to savings-bank life insurance because of what they consider to be an unfair threat to their means of livelihood. In some instances these bills have also been opposed by some of the banks, which have on the whole been slow in their acceptance of the idea. So far as the companies are concerned the general feeling probably now is that, quite apart from the merits of the question, the scope of the insurance operations of the savings banks is not such as to interfere significantly with their own operations.

## ORGANIZATION AND ADMINISTRATION

**The Massachusetts System.** *Division of Savings Bank Life Insurance.* In Massachusetts general supervisory and regulatory control of the savings-bank-life-insurance system is in the hands of the Division of Savings Bank Life Insurance, which is one of the three divisions of the Department of Banking and Insurance, the other two being the Division of Banks and the Division of Insurance.

The division employs a state actuary and a state medical director, who perform many of the functions of the corresponding officers of a life-insurance company. The law forbids the banks to

employ soliciting agents, but in 1915 the division began to employ "instructors," whose duties were to "educate workers" throughout the state in the advantages of savings-bank life insurance. Since 1938 all advertising and promotional activities and many operational functions have been conducted by the Savings Bank Life Insurance Council, an association of the issuing banks, and by the banks themselves. Formerly many of these activities were conducted by the Division of Savings Bank Life Insurance, which now confines itself to supervision and administration.

*Savings Bank Life Insurance Council.* In 1938 the Savings Bank Life Insurance Council was formed as a voluntary association of the issuing banks. In 1947 it was incorporated by a special act of the Massachusetts Legislature. Its functions are to furnish the insurance banks and their policyholders such services as are necessary for the efficient operation of the business. Since 1938 the council has gradually been assuming duties formerly performed by the state and now undertakes many operating functions as well as the formulation of general policies for the system, the compilation of statistics, legal and certain actuarial services, the instruction and supervision of agencies, and other coordinating activities.

*General Insurance Guaranty Fund.* The General Insurance Guaranty Fund is an incorporated body of trustees appointed by the governor and forms part of the Division of Savings Bank Life Insurance. The trustees of the fund appoint the state actuary and the state medical director and supervise their activities. The function of the fund is to maintain and administer the joint contingency fund formed by the contributions which are required by law to be made to the fund by the individual insuring banks. Under the law, the banks pay into the fund 4 per cent of premiums collected until the fund exceeds either \$100,000 or 5 per cent of the aggregate policy reserves of all the banks, whichever is larger. Under this rule no contributions to the fund were required from 1921 to 1942. At present, contributions are being collected at the rate of  $\frac{1}{4}$  per cent of premiums. At the end of 1955 the amount in the Guaranty Fund was about \$1.18 million, or roughly 1 per cent of total policy reserves. In addition the banks had individual surplus funds amounting, in the aggregate, to about \$10.4 million, or about 9 per cent of total policy reserves. These individual sur-

plus funds are available only for the protection of the policyholders of the individual banks holding them. Except as permitted by the state actuary, such individual surpluses are limited by law to 10 per cent of policy reserves, which is relatively low in view of the small insurance business of most of the issuing banks. With the availability of the Guaranty Fund, however, there is no reason to question the general security of the system.

Under the law the assets of the insurance department of a bank are applicable only to the liabilities of that department, and, similarly, the assets of the banking department are not available for satisfaction of any claims on the insurance department. The security of the policyholders is represented by the assets of the insurance department of the bank in which they are insured, together with the guarantee of the General Insurance Guaranty Fund.

*Payment of Expenses.* Prior to 1927 (i.e., for the first 20 years) the entire expense of the services furnished by the office of the Division of Savings Bank Life Insurance was paid by the state, i.e., by general taxation, nothing being contributed by the insurance departments of the banks. In 1927 the Massachusetts Legislature enacted a law requiring the banks to pay the cost of printing and stationery furnished by the division, and in 1929 a further measure was enacted under which the banks gradually assumed the responsibility for all operating expenses of the division. Under this law the banks have paid all such expenses since 1934. During the first 26 years of the system the advantage of freedom, in whole or part, from many of the principal expenses incident to the operation of a life-insurance business was an important factor in the comparative cost of the banks and the companies. This advantage no longer exists.

The expenses of operation of each bank are required by law to be apportioned by the trustees equitably between the banking department and the insurance department. Critics of the system have claimed that the share of total expenses allocated to the insurance department has frequently been nominal and inadequate. However, a careful investigation of this subject showed that, on the whole, expenses had been equitably distributed.<sup>1</sup>

*Unification of Mortality.* A further important element in the security of the individual banks is the system of "unification of mortality." Under this system, any insurance department which in any year has a lower ratio of actual to expected death claims than the average ratio for all banks combined pays into the General Insurance Guaranty Fund an amount computed by the state actuary, and the amounts so obtained are apportioned to those insurance departments having a ratio higher than the average. The fluctuations in the mortality experience which are to be expected in such small units are thus distributed over the whole group. In this calculation allowance is made for the proportions of new and old business in force.

*Policy Contracts.* The insurance departments of the banks issue all the principal standard forms of insurance policies and annuities. Premiums may be paid annually, semiannually, quarterly, or monthly, but not weekly, and may be paid to any bank operating an insurance department or acting as a collecting agency for the system, or to various employers' agencies, credit unions, etc. There are over 300 such agencies. All these, except employers' agencies, receive a collection fee of 3 per cent for transmitting premiums to the bank entitled to receive them. Weekly payment of premiums can be accomplished effectively by making deposits into a savings account from which premiums are deducted monthly or less frequently.

The policies contain the usual provisions found in the contracts of life-insurance companies, including optional modes of settlement. The provisions for nonforfeiture are more liberal than in the companies, a cash or loan value of the full reserve being allowed after 1 year and of the full reserve less a small surrender charge during the first year. This is possible because of the elimination of the relatively high first-year commission and other agency expenses incurred by the companies. These provisions virtually eliminate "lapse" where that term is used to denote a termination before the contract has acquired a cash value.

Neither disability income benefits nor double indemnity have been offered in connection with savings-bank life insurance, but

in Massachusetts and New York the waiver-of-premium benefit has been available in recent years.

A 5-year-term policy is issued (by the insurance banks of all three states) which may be renewed without medical examination for successive periods with final termination at age sixty-five. This is a type of contract which (for reasons which have been explained in Chapter 3) is issued by very few of the regular companies.

Premium rates are uniform for all banks in Massachusetts and are, in general, somewhat lower than the regular rates (i.e., other than for "special" or "minimum amount" policies) charged by any of the mutual companies for participating policies.

*Limit of Insurance.* The largest amount of insurance which may be obtained by one person from any one bank is now \$5,000. Under the law it would be possible to obtain a total of \$38,000 (the former limit of \$1,000 per bank times the number of issuing banks). However, in 1938, for underwriting reasons, the banks adopted a voluntary total limit in all banks of \$25,000. During the war this limit was reduced to \$10,000. In 1956 the State Division of Savings Bank Life Insurance approved an increase in the maximum limits from \$25,000 to \$35,000 (for ages at issue twenty to forty-nine with smaller limits at lower and higher ages). This is a larger amount of insurance than can be obtained under either the New York or the Connecticut system by an individual applicant. Where it is desired to buy more than \$5,000 of insurance, it is not necessary to go to more than one bank, since any bank can handle the whole application, distributing the total among the different banks as desired.

*Surplus and Dividends.* Each bank must set aside 20 to 75 per cent of its profits until it has accumulated a surplus of \$20,000. Thereafter, except by the approval of the state actuary, at least 85 per cent of the profits must be distributed in dividends. The maximum surplus permitted, 10 per cent of the reserve, may be increased with the approval of the state actuary.

A uniform scale of dividends is determined each year by the state actuary, but individual banks may decide to pay a percentage of this standard scale, either more or less. "Unification of mor-

tality" eliminates differences from that source; but since the expense and interest rates are not "unified," differences in surplus earnings occur as a result of variations in these rates and might well be reflected in different dividend scales.

*Regulation and Taxation.* The insurance departments of the banks are subject to supervision both by the commissioner of banks and by the commissioner of insurance. Their funds must be invested in the same manner as is required by law for deposits in the banking department except that they may make policy loans. Thus, so far as investments are concerned, the banks are more restricted than the companies.

Originally the insurance funds were taxed on the same basis as savings-bank deposits. This resulted in slightly lower total taxes than would have been paid on the basis applicable to life-insurance companies. Since 1939, taxation by the state has been on the same basis as that of the companies, and, since 1952, the life-insurance departments of the banks have been subject to the same federal taxes as the companies.

**The New York System.** The New York Savings-bank Life Insurance Law was enacted by the Legislature in 1938, and the system was put into operation Jan. 1, 1939.

*Administration.* The original law provided for a Division of Savings Bank Life Insurance within the insurance department with administrative power vested in the superintendent of insurance, whereas in Massachusetts the administrative power was given to the trustees of the General Insurance Guaranty Fund in charge of the Division of Savings Bank Life Insurance, which is entirely separate from the insurance and banking divisions. In 1940 the New York law was changed, and administrative powers were transferred from the superintendent of insurance to the trustees of the Savings Banks Life Insurance Fund (formerly the General Insurance Guaranty Fund). This fund, under the amended law, is a body corporate under the banking department and is in the same position, with regard to supervision by the insurance department, as a life-insurance company.

The Savings Banks Life Insurance Fund in New York combines in one central organization the functions performed in Massachu-



setts by three separate organizations: Division of Savings Bank Life Insurance (rate making and medical selection), Savings Bank Life Insurance Council (general administration and promotional activities, policy making, etc.), and the General Insurance Guaranty Fund (accumulation of joint contingency fund).

*Contributions to the Guaranty Fund.* The New York law provides for contributions of 2 to 4 per cent of premium income until investments in the fund are retired and thereafter not more than 1 per cent except with the approval of the superintendent of banks. When the fund exceeds \$500,000 or when the fund plus individual surpluses exceeds 10 per cent of total reserves, contributions cease except as required by the superintendent of banks. The trustees may, with the approval of the superintendent, discontinue contributions when the fund reaches \$200,000.

*Limitation of Insurance.* Under the New York law the limit of insurance, whether in one bank or in a number of banks, was originally \$3,000 but was increased to \$5,000 in 1948. The minimum policy is (as in Massachusetts and Connecticut) \$250.

*Policy Forms.* The New York law specifies that every policy issued shall contain, on its face, the following statement: "The only assets of this bank which are liable for and applicable to the payment and satisfaction of the liabilities, obligations and expenses of the insurance department of this bank are the assets of the insurance department of this bank." There is no such requirement in the Massachusetts law, but policies issued there contain this statement: "The assets of the Insurance Department of the Bank and of the General Insurance Guaranty Fund, as provided for by statute, are liable for any obligations incurred by the bank on account of this policy." It will be noted that this statement indicates that certain funds "are liable," not (as is the case) that these funds alone are liable.

**The Connecticut System.** The Connecticut law was enacted in 1941. The system there is virtually identical in all essential respects with that in New York, being operated by one central organization called (as in New York) the Savings Banks Life Insurance Fund.

In Connecticut the limit of insurance obtainable by one applicant (in one or more than one bank) is \$3,000, as compared with \$5,000

in New York and (currently) \$25,000 (in all banks) in Massachusetts.

**Extent and Growth.** As of Dec. 31, 1955, the total volume of savings-bank life insurance in force was about \$856 million. The greater part of this total (\$545 million) was in Massachusetts, where the system had been in operation for 30 years before the New York law was passed. The amount in force in New York banks (\$279 million) at the end of 1955 was, however, more than three times the amount in force 5 years earlier and is increasing rapidly with more banks coming into the system each year. In Connecticut, growth has been relatively slow, with a total amount of insurance in force after 15 years' operation of about \$31.6 million.

New issues amount currently to about \$41 million in Massachusetts, \$26 million in New York, and \$4 million in Connecticut, or a total of about \$70 million in all three states.

Admitted assets at Dec. 31, 1955, totaled \$174.5 million (of which \$122.5 million were in Massachusetts, \$47.8 million in New York, and \$4.2 million in Connecticut) having approximately doubled in a 5-year period.

These figures indicate that, while the business and assets of the savings-bank-life-insurance system are substantial, they are quite insignificant in comparison with aggregate figures for the regular companies in the United States, which, at the end of 1955, had total assets of about \$90 billion, insurance in force of about \$400 billion, and currently, new issues of about \$60 billion. Even allowing for a substantial extension and growth of savings-bank insurance it is not likely ever to form more than a very small fraction of the total life-insurance business.

**Comparative Cost of Savings-bank Life Insurance.** Originally the insurance departments of the banks in Massachusetts enjoyed advantages as to expenses and taxes not shared by the regular companies. This naturally resulted in reducing the cost of insurance, apart from the savings due to the elimination of agents' commissions and other sales costs. These advantages have long since been removed. The cost of insurance under the savings-bank system has been lower than in the companies, and

because of the elimination of agents' commissions and other new-business expenses incurred by the companies in rendering substantial and valuable services to policyholders, the cost, in future, may continue to be lower. However, for the reasons discussed below, these differences in cost may be less than they have been in the past.

Apart from capital gains and losses, there are three elements in the cost of insurance: the rates of mortality, of interest, and of expense. According to the advocates of the savings-bank system, a more favorable experience in at least two of these elements, mortality and expense, than has been enjoyed by the companies explains the difference in cost which has existed in the past.

*Mortality.* The mortality experience to date under the Massachusetts system (which has a relatively mature experience) has been very favorable. A valid comparison cannot be made, however, with the experience in the companies on the basis of the ratio of aggregate actual to expected mortality because of differences in the proportion of recently selected lives and the proportion of young lives insured. Some advantage with respect to the mortality rate should result from the restriction of business in the banks to a healthier-than-average section of the country and also from the absence of large policies. Offsetting these favorable factors are the facts that business is transacted chiefly among the low-income groups which are, in general, subject to a somewhat higher mortality rate and that a greater degree of self-selection is to be expected among those insured in the banks. Apart from the small differences likely to be due to such causes there is no reason to suppose that selection will be better or mortality lower than in the companies.

Some information in regard to the ultimate mortality experience under the savings-bank system is given in a report published in the *Convention Bulletin* of the Forty-fifth Annual Meeting of the Savings Bank Association of the State of New York. In that report the ultimate mortality rates under the Massachusetts system are compared with similar rates, those based on the experience of some of the principal companies. Up to about age thirty or thirty-five there is very little difference, but at the higher ages the

savings-bank mortality rate is increasingly lower than in the companies.

An important point in regard to the relation between mortality experience and cost is that in the companies the mortality savings in the early years of insurance are offset by the higher rate of initial expense. These savings or, at least, a large part thereof are therefore not available, as in the banks, to reduce the cost of insurance in the early years. Hence, for the first few years of insurance the mortality factor of the dividend is likely to be, and in fact should be, higher in the banks than in the companies. The results over a period of years will depend on the comparative ultimate experience.

*Interest.* Since the savings banks are more closely restricted with respect to investments than the companies, it would be expected that the latter would be able to earn a somewhat higher rate of interest, and, in recent years, this has been the case.

There seems to be no reason to suppose that the banks will be able to earn in future a higher rate of interest than the companies, so that no advantage to the former is to be expected from that source.

*Expense.* It is upon a low rate of expense, caused largely by the elimination of soliciting agents rather than by a low rate of mortality or a high rate of interest, that the difference in cost will chiefly depend.

An important fact which is likely to be overlooked in a discussion of relative expense is that the elimination of the agent involves the elimination of his services. It is not to be presumed that the elimination of the agent is all gain. On the contrary, the agent renders a variety of services which either are not available at all to the savings-bank applicant or policyholder or are not available except at considerable personal inconvenience. Such services, which are supplied at the policyholder's home or office, include competent advice on forms of policies available in different companies, arrangements for optional modes of settlement, programing of existing insurance in one or more companies, changes in plan of insurance or in mode of premium payments, services in connection with policy settlements, and many other matters. Some part, at least, of the

saving in cost under the savings-bank plan must be written off against the loss of such services. The banks claim that the services which they can and do furnish to policyholders are sufficient, particularly in view of the smaller average amounts, and that policyholders are satisfied and are more interested in low cost.

Apart from such services (much more real now than formerly) there is the fact that, were it not for solicitation by agents, many persons would not be insured at all. In Massachusetts, where the savings-bank-life-insurance system has been in operation for about 50 years, the amount of insurance in force in the banks is only about one-tenth of the ordinary insurance in force in the companies on the lives of residents of Massachusetts, and about one-twentieth of the total insurance, including industrial and group insurance. The companies believe that from an economic standpoint the agency system more than justifies its cost in the resulting wide extension of the benefits of life insurance.

The fundamental question involved, so far as the expense of the agency system is concerned, is whether it is better to have a relatively small number of persons insured at low cost than to have a very much larger number insured at a somewhat higher cost. From the point of view of economic advantage and the general public welfare, there is no doubt that the latter is preferable. If so, the agency system and the expense of maintaining it are entirely justified.

**Criticisms of Savings-bank Life Insurance.** Most of the criticisms directed against the plan at the time of its inception and in its earlier years have not been justified by experience. It was claimed that the number of persons who would voluntarily seek such insurance would be negligible. The number of policies in force in the three state systems—now about 700,000—can hardly be regarded as negligible, and the number is rapidly increasing. It was also claimed that the mortality rate would be excessive because substandard lives would attempt to get this form of insurance, a prophecy which has not proved accurate. Other criticisms were that the interest rate would be very low because of the investment restrictions on savings banks, and the lapse rate high. Partly for reasons which have already been discussed, neither has proved to be the case.

The plan has been criticized chiefly on two grounds: (1) that the competition which it creates is unfair and (2) that it is inferior in service and security to insurance in the companies.

*Unfair Competition.* Under the existing system of government it is generally considered that it is not the function of the state to enter directly into competition with private business. It would seem to follow that it is not proper for the state to lend its prestige and support to a favored class of private insurers, as was the case in the earlier years of the savings-bank-life-insurance system. It is, however, true that since 1938 no promotional activities have been undertaken in Massachusetts by the state, and in the other two states the operation and promotion of savings-bank life insurance have always been separate from the state, which has exercised only regulatory supervision. The companies naturally consider that the emphasis on low cost and the implication that the agency system is unnecessary and wasteful are misleading in view of the different character of the services furnished. This is particularly true in regard to comparisons with the cost of industrial insurance, which, for reasons already indicated, is not at all comparable with savings-bank life insurance.

While the companies have not recognized the necessity, desirability, or propriety of permitting savings banks to write life insurance, some of them have more recently taken the general position that they will not oppose savings-bank insurance except to the extent that the banks are permitted to operate under less stringent rules and requirements than the companies. This would include the application to the agents of the savings banks of the same examination and licensing requirements as are applicable to the agents of life-insurance companies. This has, in fact, been accomplished in New York where, since 1948, the state insurance department has required that employees of savings banks who receive applications for insurance must pass an examination similar to that required for the issuance of an agent's license. At the same time some other minor changes were made in the insurance and banking laws with the purpose of making the insurance departments of the banks subject, as far as possible, to the same regulatory requirements as the companies. It may be noted that until 1952 savings-

bank life insurance enjoyed exemption from federal income tax by reason of the exemption granted to mutual savings banks. In 1952 this exemption was removed, and since then both the insurance and banking departments of mutual savings banks have been subject to federal taxes.

*Service and Security.* The absence of service to policyholders and the public comparable with that furnished by the companies and their agents and the tendency in their literature and other publicity media to dwell on the *cost* of an agency system without due recognition of its advantages are the principal legitimate criticisms of the savings-bank system. Reference has already been made to the services of agents. The banks are the point of contact with policyholders. Many of the insuring banks are very small and have only an insignificant life-insurance business. It is evident that only the large banks are in a position to maintain a special staff of trained persons competent to advise on the many technical matters relating to the effecting and maintenance of life insurance. It is simply not their business.

Any criticism about security is purely technical. There is, in fact, no question of the financial soundness of the savings-bank-life-insurance system. While the plan in actual operation corresponds in many essential particulars to the operation of a single life-insurance company, there is the important distinction that, instead of a single large insurance fund responsible for all liabilities of the "company," the fund is split into as many parts as there are banks, each of which (backed by the general guaranty fund) is liable only for the claims of that particular unit.

It may not be fully realized by the average policyholder under the savings-bank plan that the assets of the banking department of the savings bank in which he takes insurance are not liable for the insurance contracts and that the security behind his contract is represented by (1) the assets, including the surplus, of the insurance department of the particular bank in which he is insured, and (2) a claim on the central guaranty fund. The unification of mortality experience is an important and, in view of the other elements of security, a vital element in the situation.

In the past (but not for many years) claims have been made

that, in regard to security, the savings-bank system was indeed superior to the companies. Thus in the 1944 edition of the *Survey* of the Massachusetts system issued by the deputy commissioner, the following statement appears:

. . . the Savings-Bank Life Insurance system points with pride to the fact that the surplus maintained in addition to the required reserve on October 31, 1943 was an amount equal to 8.96 per cent of the reserve. This does not necessarily mean that the policyholders in the huge life insurance companies which maintain a smaller percentage of surplus are not adequately protected. It does mean, however, that the policyholders in Savings-Bank Life insurance enjoy a wider margin of safety.

The fact is that the percentage of surplus to reserves should be greater for a small company than for a large one. In the case of such extremely small units as are found in the savings-bank system, and when we remember that the surpluses of individual banks are not available to other banks, it would be difficult to say what percentage could be regarded as sufficient. The financial measure of security is, of course, the individual surpluses plus the general guaranty fund. It is unnecessary to attempt to measure the *relative* security as compared with the companies, since security depends on many other factors besides the amount of surplus. The long record of the Massachusetts system demonstrates the financial soundness of the plan. The individual surpluses and the central guaranty fund have steadily increased, and there never has been any occasion for any bank to call on the central fund for assistance.

### REVIEW QUESTIONS

1. What were the circumstances which led to the foundation of the savings-bank-life-insurance system?
2. State some of the reasons which have been advanced to justify the transaction of a life-insurance business by savings banks.
3. In the Massachusetts system what are the general functions of (a) the Division of Savings Bank Life Insurance? (b) the Savings Bank Life Insurance Council? (c) the General Insurance Guaranty Fund?
4. What is meant by "unification of mortality"? Why is this necessary under the savings-bank system?



5. What are the limits of insurance obtainable by an individual under each of the three state savings-bank system? What classes of policies are issued? What disability or double-indemnity benefits are included?

6. What has been the general attitude of the life-insurance business toward savings-bank life insurance?

7. How does the cost of savings-bank life insurance compare with that in the companies generally? What effect on cost might be expected because of differences in (a) interest earnings? (b) mortality experience? (c) expenses?

8. Discuss the relative security of savings-bank and regular life insurance.

## Fraternal Life Insurance

In addition to the regular life-insurance companies and the savings banks (in three states), life-insurance benefits are furnished to their members by many fraternal orders and also by other relatively small organizations, including commercial assessment associations, mutual-aid associations, and burial societies.

Fraternal life insurance made its appearance about the same time as industrial insurance and, like industrial insurance, was adapted to the needs of the low-income groups of the population—the so-called “working classes”—which were not at that time being reached by the commercial companies. As explained later, there were other reasons for the rapid development of fraternal life insurance which took place in the 1880s and 1890s, and for a long time (until the early 1920s) the volume of fraternal life insurance in force exceeded the volume of industrial insurance. In fact, during the period from about 1885 to 1895, the amount of fraternal life insurance in force actually exceeded the ordinary insurance in force in the companies.

Since the beginning of the present century, the volume of insurance in the companies, both ordinary and industrial, has steadily increased (except for a brief interruption during the depression years 1932 to 1934, when all classes of life insurance showed a decrease), but fraternal life insurance has, during most of that period, been gradually decreasing in volume and now accounts for a far lower relative share of the total life insurance in force than formerly. A major reason for the decreasing relative importance of fraternal insurance has been the difficulties encountered because of the fundamental defects of the assessment plan of insurance (as ex-

plained in Chapter 1), which was the basis upon which the life-insurance business of the fraternal was established. Another major reason was the introduction of group life insurance by the regular companies in the 1920s. In regard to the effect of group life insurance on the fraternal, an authoritative writer says:<sup>1</sup>

Group insurance is probably the greatest blow ever received by fraternal societies. It has supplied the need for cheap term protection. In search of business the fraternal are being forced more and more to adopt the benefits granted by life insurance companies. They are criticized for so doing and are warned of the penalties they may expect in the shape of taxation. They are told to keep to their original simple forms of insurance, but on adequate rates, and find their prospects taken from them under these simple plans, by the coverage given by the group policies of the life insurance companies.

In addition to these reasons for the general decline in the importance of fraternal life insurance, the greatly improved economic status of the "working classes" in recent years has enabled them to participate to an increasingly substantial extent in the types of life insurance supplied by the regular companies.

Since 1940, the volume of fraternal life insurance in force has (after decreasing each year for about 20 years) shown a slight annual increase, but much less, both absolutely and relatively, than that of ordinary, industrial, or group insurance in the companies. This increase may be accounted for by the effects of inflation and, possibly, also by the fact that some of the larger fraternal now appear to be operating on much the same basis as the regular companies with regard both to the system and plans of insurance offered and the terms of their contracts and to the introduction of promotional methods resembling the agency and sales organizations of the regular companies.

The relative importance of the different classes of insurers at the present time, as measured by volume of insurance in force (in the United States and Canada) as of Dec. 31, 1955, is shown in Table 17-1. The table does not include the large amount of life insur-

ance which has been issued by the United States government to servicemen and veterans and which amounted to about \$40 billion as of Dec. 31, 1955.

TABLE 17-1. VOLUME OF INSURANCE IN FORCE IN UNITED STATES AND CANADA, DEC. 31, 1955

Type of insurer	Insurance in force (in billions of dollars)	Per cent of total
Regular companies:		
Ordinary.....	\$235.0	57.0
Industrial.....	41.5	10.2
Group.....	122.5	29.7
Total.....	\$399.0	96.9
Savings banks.	0.9	0.2
Fraternal orders...	10.5	2.5
Other organizations (assessment societies, etc.)... ..	1.6	0.4
Total.....	\$412.0	100.0

SOURCE: *Life Insurance Fact Book, 1956*, Institute of Life Insurance, New York, 1956.

The table shows that while the volume of life insurance at present in force in the fraternal is less than 3 per cent of the total, it is substantial. The amount in force—over \$10 billion—is about one-fourth of the total of industrial life insurance in force and is more than ten times the amount in savings banks. Thus, although the fraternal now have a much smaller share of the total insurance in force than formerly, they are still of substantial importance as life insurers.

**General Nature of Fraternal Societies.** Fraternal societies (as distinguished from fraternal-insurance societies) have existed in the United States for over 200 years. The first of these societies were of foreign origin, chiefly British and German. The first American fraternal society was organized about 1850, and the first fraternal-insurance society (The Ancient Order of United Workmen, or A.O.U.W.) in 1868.

The early fraternal societies were formed within restricted groups purely for social and benevolent purposes. Various forms of relief for members or their families during sickness and unemployment or at death were provided under the rules of the society and, in general, on a nonguaranteed and noncontractual basis, i.e., on the basis of need rather than as "insurance." The bases of membership were quite varied. Eligibility depended on such factors as nationality, language, membership in some religious denomination or sect, or occupation. These were the principal categories. Many of the fraternal-insurance societies have both "social" and "beneficial" members, and only the latter participate in the insurance benefits. This emphasizes the fact that the fraternalists are not only, or chiefly, insurance organizations.

The insurance operations of fraternal societies are governed in some of the states by special articles or chapters of the insurance law, the provisions and requirements of which are generally somewhat less comprehensive and less exacting than for the regular companies. Two states (New York and Pennsylvania) have closely similar definitions of a "fraternal-benefit society." Article XIV, Section 450, of the New York Insurance Law reads in part as follows:

*Fraternal benefit society, defined.* Every incorporated society, order, or supreme lodge, without capital stock, formed, organized and carried on solely for the benefit of its members and of their beneficiaries and not for profit, operating on a lodge system and having a representative form of government, which obligates itself for the payment of insurance or annuity benefits or both in accordance with this article, is hereby declared to be a fraternal benefit society within the meaning of this chapter.

Section 451 of the law explains what is meant by "operating on a lodge system," as follows:

*Lodge System, defined.* Every such society having a supreme governing or legislative body and subordinate lodges, by whatever names known, into which members shall be elected, initiated or admitted in accordance with its constitution, by-laws, rules and regulations, which subordinate lodges shall be required by the constitution and by-laws of such society to hold regular or stated meetings at least once in each month, and

either to conduct prescribed ritualistic ceremonies for the initiation of new members or to carry on other altruistic, educational, fraternal or recreational activities, shall be deemed to be operating on the lodge system.

The principal requirement of a "representative form of government" is satisfied if the supreme controlling body (which may be called by a variety of names—sometimes of a striking character) is composed of representatives, elected either directly by the members or by delegates from the local lodges chosen in the manner specified in the society's constitution or bylaws.

It is an important and distinctive feature of the fraternal-insurance contract that the provisions of the society's constitution and bylaws, *and any future changes therein*, are generally incorporated by reference. The terms of the contract are therefore not fixed and unchangeable, for example, in regard to the contributions, assessments, or "premiums" payable by the insured member, a fact which has a considerable bearing on the question of solvency. This is called an "open" contract, as distinguished from the "closed" contract of the regular companies, the terms of which cannot be changed without the consent of the policyholder.

**Development of Fraternal Life Insurance.** Two factors were largely responsible for the rapid growth of fraternal life insurance in the period from 1875 to 1895. The first of these was the number of failures of life-insurance companies at about that time, which had seriously diminished public confidence in the whole system of level-premium life insurance as furnished by the regular companies. The principal companies had always been operated on sound lines, and there never had been any question about their safety and solvency. However, state supervision at that time was, in general, lax and inadequate. After the close of the Civil War a large number of companies had been organized, many of which were operated on unsound lines. In many cases the need for adequate premiums and reserves either was not realized or was disregarded, while expenses were excessive owing to extravagant methods of operation. The inevitable collapse of such companies was hastened by the financial panic of 1873 and the subsequent period of depression. By the early 1880s a large number of these companies

had gone out of existence, leaving a trail of disappointment and distrust in the level-premium system.

The second factor leading to the growth of fraternal life insurance was largely a consequence of the first. This was the widely publicized view that insurance on the level-premium plan was, in any case, unnecessarily expensive and (in view of the many failures) hazardous to the purchaser. The fraternal (and the commercial assessment associations, which also became active about this time) claimed that reserves were unnecessary and that life insurance could be provided far more cheaply by limiting "premiums" to the amounts necessary to pay current death claims and expenses, i.e., under an "assessment system." Their slogan, which, in view of what had happened, had a strong popular appeal, was: "Keep the reserve in your own pocket."

A further element in the situation was that the public did not understand the level-premium plan, which was technical and complicated. Under that system, the companies were charging premiums which were clearly much more than necessary to cover current claims and expenses and were accumulating large "reserves," whose function and use were not generally understood. Furthermore, the companies were paying substantial sums to soliciting agents and for overhead expenses, which added materially to the cost of insurance. Since it also seemed at this time that there was a fair chance of losing all one's "excess payments" through the failure of the company, it is not difficult to see why the system of insurance offered by the fraternal (and by the commercial assessment association) recommended itself to the public as a cheaper, safer, and more reasonable system. In the earlier stages of their development the insurance operations of the fraternal were conducted on the assessment plan in its simplest form: by the collection of uniform assessments, irrespective of age, and on a post-mortem basis, i.e., each time a death occurred. The defects of this system were to be discovered later by painful experience.

**Operation under the Assessment System.** As has been explained, the fundamental fallacy involved in the assessment system is the assumption that an annual influx of new members at low ages will be secured and will tend to maintain the same average

age for the whole group and that this will prevent the cost of insurance from increasing. But the maintenance of the same average age would not prevent the assessments from increasing as the original members began to reach the higher ages. Assessments are, in fact, bound to increase under this system even with a very large annual number of new and young members. Moreover, the inequity of equal assessments, irrespective of age, is eventually bound to become apparent and to have some effect on the ability to secure and retain new members at low ages.

Nevertheless, some of these societies were able to continue operating under the assessment system for remarkably long periods. An important factor in this connection was that in some of the societies the amount of the insurance benefit (and therefore of the assessments) was small. Unlike the situation in the commercial assessment associations, life insurance was not the only reason for membership. Where it was only a minor feature, small increases in the number or amount of the assessments for the insurance benefit were not likely to have any material effect on the ability to maintain the membership, at least for a long time, while the inequity involved in disregarding differences in age was not sufficient to attract much attention.

The defects of the uniform-assessment system, which gradually began to become evident, as well as competition for new members at low ages, led to the adoption of the "graded-assessment system," under which the assessments were graded upward by *age at entry*—frequently in a rough and arbitrary manner. Since, on a year-to-year (1-year-term) basis, the cost of insurance depends not on age at entry but on the current age, the change to graded assessments was merely a palliative. The inequity between young and old members was reduced, but the older members were still paying far less than their proper share of death claims. The same basic defects still existed, and the day of reckoning was merely postponed.

A few societies, realizing that the cost of insurance should be related to the current age, adopted the "natural-premium," or "step-rate," plan for assessments. This was a financially sound plan (i.e., yearly-renewable term insurance), but its successful application required adequate rates and involved prohibitive eventual costs at the highest ages. No suitable mortality table then existed upon



which proper natural premiums could be based, while there was unwillingness or inability to apply the system rigidly at high ages.

**N.F.C. Mortality Table.** The gradual realization of the fact that life-insurance benefits must be based either on an adequate "natural-premium" plan or, if permanence of membership was to be assumed, on the level-premium plan led to the construction in 1898 of the National Fraternal Congress Table of Mortality. This table, which was hastily prepared on a largely empirical basis, was apparently intended to be a combined mortality and lapse table. Since no provision was needed for nonforfeiture values, the regular mortality tables used by the companies were thought to be too severe. In spite of its imperfections, the N.F.C. Table continued for some time to be widely recognized as an acceptable basis for fraternal. The important point is that its construction evidenced the recognition of the need for an actuarial basis for life-insurance benefits.

Speaking of the N.F.C. Table, S. H. Pipe says:<sup>2</sup>

It probably had a greater educational result than any other mortality table. Let us consider the mental attitude of the fraternalists at that time. They had taught their members that the large reserves of the life insurance companies were unnecessary and it placed them in a difficult position to acknowledge that level premiums required the accumulation of reserves. Any mortality table connected with the operations of life insurance companies was barred as a minimum-rate table and the fraternal societies had no tabulated data of their own at that time of much value. The manoeuvres used in the construction of their own table had the appearance of a pseudo-actuarial setting to produce a desired result. But in its accomplishments the result was worth while. The fraternal societies had a mortality table of their own, and with it they proceeded with a great faith and a still greater courage to reform their system.

**Model Bills.** The transition to a sound actuarial basis, which has been accomplished by most of the fraternal societies, has been aided by legislation initiated by the fraternalists themselves (through action by their organizations, the National Fraternal Congress and the Associated Fraternities of America) in the form of model bills recommended for enactment by the states.

<sup>2</sup> *Ibid.*

In 1892 the Uniform Bill was drafted by the N.F.C. This bill (which antedated the N.F.C. Table) did not deal with rates or actuarial solvency. It defined a fraternal-insurance society and provided for formal admission by, and annual reports to, the state and for exemption of fraternalists from most of the provisions of the state insurance law applicable to the companies. An amendment of the Uniform Bill was prepared in 1900 (after the construction of the N.F.C. Table) which would have required *new* societies to charge rates based on that table but would have made no such requirement for societies already in existence.<sup>3</sup> Disagreement about the provisions of this amended bill prevented any action from being taken but led, during the following 10 years, to considerable discussion concerning the actuarial aspects of fraternal insurance.

In 1910 (at the meeting of the National Convention of Insurance Commissioners in Mobile, Alabama) committees of the convention and of the fraternal organizations agreed on a new model bill. This bill, the Mobile Bill, prescribed the N.F.C. Table as the minimum basis for rates and provided for standards of actuarial solvency. The bill required a progressive improvement to be shown in the "valuation ratio" in successive triennial periods (i.e., for gradual attainment of adequate actuarial reserves), failing which a society might be dissolved or be subject to loss of license. This bill was enacted in 13 states. There was, however, some opposition, and in 1912 a new model bill, the New York Conference Bill, was agreed on. It modified the provisions of the Mobile Bill and added a provision permitting the separation of adequate and inadequate rate groups. Members in an "inadequate-rate" class could transfer to an "adequate-rate" class by agreeing to pay the rates required. The New York Conference Bill was enacted by a substantial majority of the states.

These bills were limited to provisions dealing with rates and solvency and a few other matters, such as admission and the filing of annual reports with the state insurance department. They did not provide for the comprehensive and detailed system of supervision and regulation which the insurance laws of all states require in the case of life-insurance companies. New York State has, however,

<sup>3</sup> This amendment is sometimes called the "Force Bill."

enacted legislation providing for the general regulation of fraternal-benefit societies (Article XIV of the New York Insurance Law).

**The Fraternal Contract.** Originally the fraternal-insurance contract was simply a short certificate stating that the beneficiary named by the member was entitled, in accordance with the rules and regulations of the society, to the amount of death benefit stated. These rules were subject to change by action of the "supreme lodge" or other governing body. Sometimes the rules provided for payment of a *maximum* specified sum or an amount equal to \$1 per member, if less. In some cases the certificate simply stated the maximum amount and was thus misleading since the actual benefit might be considerably less than the maximum.

With the abandonment of the assessment system and the general change to an actuarial basis involving level premiums, reserves, and nonforfeiture values, the fraternal contract has tended to become similar in most respects to the usual form of life-insurance contract and to contain most of the provisions found in such policies. The important difference, however, is that it is still an "open contract." This means that, unlike the commercial-company policy, which, with the application, constitutes the entire contract and is unchangeable except by mutual agreement, the fraternal contract includes the constitution and bylaws of the society and is subject to their provisions and to any changes therein duly made by proper authority. Thus any of the provisions of the contract, including the premium rates, can be changed. Changes in rates, arising out of changes in the constitution or bylaws of some of the societies have, in fact, been made and have given rise to controversy and litigation. In effect, even though made on a level-premium basis, the fraternal contract is still an "assessment" contract, although the "assessments" (if any are made) would be computed by actuarial methods.

In this connection one writer has recently said:<sup>4</sup>

With fraternal societies collecting assessments in accordance with actuarial principles, as is largely the case today, the difference between the *closed* and *open* contracts lies in the procedure to be followed by

the insurance organizations in time of financial stress. Under the *closed* contract the corporation must reinsure, merge or be forced into receivership. In any event, if there is a significant deficiency, the *closed* contract must be "opened" by either joint agreement of the parties or by a court of law so that appropriate liens may be levied. This is in contrast to the *open* contract where, under the same conditions, the supreme lodge of the society may act. The fraternal procedure is claimed to be quick, simple and inexpensive.

**Assessment Associations.** The position of the assessment and other similar associations is not so satisfactory nor so promising as that of the fraternal. These associations operate on many different plans and many of them do not set up any actuarial reserve as such, although the rates are now usually on a level-premium scale and not on a step-rate or assessment basis. The larger associations maintain a large "surplus," which is available, as far as it goes, to meet future liabilities. In some cases the policy contracts are misleading, and the right of the association to charge additional assessments if necessary is often not known to the insured, since the clause providing for such a charge usually occupies an inconspicuous place in the policy. Under the laws of certain states, adequate premiums and reserves are required in respect to all new members of existing assessment associations, and a separation of assets is called for. These associations, which are for the most part commercial associations organized for profit, supply no life-insurance need which is not very much better supplied by the regular companies or the fraternal.

## CANADA

**Fraternal and Assessment Associations.** Fraternal-insurance societies are much less numerous and important in Canada than in the United States. Thirty years ago the Dominion Parliament and the Legislative Assembly of Ontario, followed later by several other provinces, enacted legislation requiring all fraternal-insurance societies to include in their annual statements to the insurance departments a valuation of each benefit fund made by a properly qualified actuary. Any deficiency disclosed by the valuation was re-

quired to be made good, within a period not exceeding 4 years, by an increase of rate or a reduction of benefit. These requirements were rigorously enforced, with the result that fraternal insurance in Canada is now very largely on a sound financial basis.

The development of fraternal societies in Canada has been similar to that in the United States. The Canadian societies were incorporated by Dominion or provincial charter. Three or four of the Dominion societies have been active in the United States for many years. All the Dominion societies and all the provincial societies (except in British Columbia and Saskatchewan) effected any necessary adjustments in their plans of operation many years ago and are now operating on sound principles.

Assessment associations, or "clubs," as they are popularly called, still exist in British Columbia and Saskatchewan. Most of them were organized about 30 years ago under provincial charter. The usual method of operation is the collection of \$1 every time a member dies and payment of the proceeds to the beneficiaries. No new club has been permitted to be organized in British Columbia since 1926 or in Saskatchewan since 1933. These clubs operate outside the insurance laws, from which they are expressly exempted.

## REVIEW QUESTIONS

1. State three characteristic features of a fraternal-insurance society.
2. What is the essential difference between the insurance contract of a fraternal society and that of a life-insurance company?
3. What were the reasons which led to the rise of fraternal life insurance in the latter part of the nineteenth century?
4. What are the fundamental defects of the assessment system as originally used by the fraternal? Why were some societies able to continue under that system for long periods?
5. Explain (a) the graded-assessment system; (b) the natural-premium plan. State the practical defects of these systems.
6. State briefly the principal purposes of the three "model bills" (the Uniform Bill, the Mobile Bill and the New York Conference Bill) prepared by the fraternal organizations.

## Internal Organization

The internal organization of a life-insurance company is broadly divided between the work of the home office and that of the branch offices and agents. The general management and control of all the company's affairs rest with the home office, while many details of administration and most of the work involved in new-business production and service to policyholders are carried out at or by agencies and branch offices throughout the territory in which the company operates. The organization of the home office will first be considered. Naturally there is considerable variation in the detail of the systems of organization of different companies. The following paragraphs therefore can only outline the subject in a general way.

### HOME OFFICE

**Duties of Directors.** The supreme control of a life-insurance company is exercised by directors (or, as they are sometimes called in mutual companies, "trustees") when acting as a full board. The full board represents and is elected by the stockholders of a stock company or the policyholders of a mutual company. Control by the full board can be exercised in only a general way. A more active participation in the management by individual directors is obtained by the appointment of small committees of the board to which certain powers are delegated by the full board. These committees usually include an *executive* or *insurance committee*, a *finance committee*, a *claims committee*, and an *auditing committee*.

The duty of the executive committee is to act on the recommen-

dations of the officers in regard to all questions affecting the general methods of carrying on the business, as, for example, the classes of insurance and kinds of policies to be written, the rates of premiums to be charged, the terms of the company's policies, the territory in which the company is to operate, and so forth.

The finance committee decides the general investment policy of the company and is concerned chiefly with investment of the company's funds. Questions of sale or purchase of real estate or securities, granting of mortgage loans, bank deposits, and similar matters all come within the province of this committee. In larger companies there will usually be a separate committee to deal with real-estate and mortgage loans. The claims committee has jurisdiction over the payment of claims and, in particular, decides the action to be taken in regard to doubtful or contestable claims. The auditing committee maintains a general supervision over the company's accounting system.

Directors' committees will, as a rule, be guided by the recommendations of the officers of the company directly concerned. Frequently executive officers of the company are themselves members of the board and of directors' committees or, if not, attend them in an advisory capacity. This is necessarily so in the case of committees dealing with technical details of the business. In general, the function of directors is not to initiate action but to approve or disapprove the recommendations made by the officers of the company who carry on its active management and who are in close touch with its affairs.

**Duties of Officers.** The effective control of the company in all routine operations is necessarily in the hands of the officers and the heads of departments. The duties of the various officers are regulated by the provisions of the company's bylaws or "code of organization." In practice, the duties of officers vary in different companies according to size, nature of the business, and other considerations. In theory, the president of the company supervises all the departments of the company, and the vice-presidents each have active supervision of one or more departments according to the size of the company. They assist the president and act for him in his absence.

An *executive officer* is one who has power to bind the company, i.e., power to contract on behalf of the company. The executive officers normally include the president, the vice-presidents, and the secretary, but other officers may have "executive" authority.

The normal distribution of the work of the home office into departments may be illustrated by considering the action necessary in dealing with an average application for insurance. The application is secured by an agent who is under the control of the *agency* department. It is approved (or otherwise) by the *selection* (or *underwriting*) department. The rate of premium to be charged is calculated by the *actuarial* department. The policy form, which is prepared or approved by the *law* department, is written and issued by the department in charge of *policy issues*. The premium received and the commission paid to the agent are entered on the books of the company by the *comptroller's* (or *accounting*) department, and the net amount is deposited in the bank and subsequently invested by the *treasurer's* (or *financial*) department. The principal records and the necessary correspondence are under control of the *secretary's* department.

Each of the departments mentioned has many duties in addition to those to which reference has just been made. These duties vary according to the practice of different companies, the distribution of work by departments depending largely on the size of the company. The principal duties of each department will now be described briefly.

**Agency Department.** The *agency* department is usually under the direct charge of a vice-president or other executive officer, sometimes called the *manager of agencies*, who is assisted by one or more *superintendents of agents*. This department has general charge of the company's offices other than the home office and of the conduct of the company's business transacted at such agencies or branch offices. It is the principal duty of the agency department to secure new business. To do this it will make contracts with soliciting agents, either through its *branch managers* or by arrangement with *general agents*, and, in the former case, will fix the terms of agents' contracts, including the rates of commission to be paid. The agency department will appoint the general agents or branch



managers, as the case may be, who have general charge of the company's affairs in various localities throughout the country where business is transacted. The agency department will also prepare rate books and canvassing literature for the use of the agents, and will carry on such training and educational work as is necessary to equip the agency force for successful performance of their duties.<sup>1</sup>

**Department of Selection of Risks.** *Selection* of risks, or, as it is sometimes called, *underwriting* of risks, is partly the work of the *medical* department, which is under the control of the *medical director*, and partly the work of *underwriters* who deal with aspects of the risk other than medical. Usually all aspects of the selection of risks are under the supervision of one officer, sometimes called the *manager of selection*. The medical department selects and appoints medical examiners throughout the territory covered by the company, and a large part of its work will consist in scrutinizing and reviewing the reports made on applicants by these examiners. An important duty of the medical director is to make recommendations about the medical standards to be adopted by the company in the selection of risks. For this purpose the medical department will arrange for the collection of statistical information of all kinds bearing on mortality rates and medical selection.

The factors, other than the medical examination, involved in the selection of risks (such as finances, environment, occupation, and "moral hazard") are usually under the control of a separate division of the underwriting department. Arrangements will be made by this division for the availability of local correspondents from whom information may be secured and for the collection and classification of miscellaneous information bearing on the insurability of various types of risks.

Most companies now perform a large part of the routine work of reviewing applications through the medium of specially trained "lay selectors." The majority of cases involving moderate amounts of insurance are clearly acceptable and do not call for any special skill in selection. Those which involve any doubt about insurability are referred to the medical director or supervisor of risks; while for

<sup>1</sup> The general organization of the agency department in relation to the field is described in the second part of this chapter.

difficult or doubtful cases or cases involving large amounts there is frequently a special selection committee.

**Actuarial Department.** The main function of the *actuary* of the company is to see that its insurance operations are conducted on a sound financial basis. An actuary is specially trained in calculations which involve the rate of interest and the rate of mortality, on which the business of life insurance depends. His duties are, however, of a broad nature, and, in addition to much routine work of a technical description, he must advise the other officers of the company on many matters affecting the company's business. The actuary is, in short, the technical adviser on the company's operations.

The work of the actuarial department has to do chiefly with premium rates, reserves, and dividends. The actuary recommends the bases of mortality, interest, and loading upon which the premium rates are to be calculated, and his department prepares tables of premiums for the use of the agency department. An important duty of the actuary is the calculation, at the date of a financial statement, of the amount of liability on existing policies (the reserve) and the determination of the amount of surplus available for distribution among policyholders as dividends. The methods and formulas to be used in the distribution of surplus are also determined by the actuary, who must keep all records required for either reserve or dividend calculations. The actuarial department furnishes the tables of cash and other nonforfeiture values which appear in the company's policies and makes all necessary calculations when policies are lapsed, surrendered, or changed in any manner. In conjunction with the comptroller, or auditor, the actuary prepares the annual financial statements required by state insurance departments. In addition, the actuarial department keeps records of the mortality experience of the company and makes any mortality or statistical investigations which may be needed or desirable and for which its equipment and knowledge are particularly suited.

**Law Department.**<sup>2</sup> The *law* department, whose officer in charge is usually called the *general counsel*, approves all forms used in

<sup>2</sup> The law department is frequently referred to as the "legal" department. All departments are, of course, legal departments.

the transaction of the company's business, such as application blanks, policy forms, and claim blanks. When payments of any kind are made under the terms of policy contracts, the law department will determine, if necessary, to whom payment should be made, particularly where the company has notice of assignments, bankruptcies, or other claims. It will also examine titles in connection with the real-estate and mortgage transactions of the company and make arrangements for protecting the company's interests in such matters. In connection with the company's investments it will ascertain, if necessary, whether bonds or other securities proposed for purchase have been legally issued, what the security is, and whether the company may legally purchase them. The company's counsel will take care of its interests in any lawsuits in which it may become involved and will arrange for appearances and representation. The law department must also keep in touch with all legislation affecting life insurance, whether in Congress or in state legislatures, as well as with the numerous rulings of the state insurance departments, so that the company may not fail to be informed of and comply with the provisions of all such laws or rulings. In this connection an important duty of the law department is to see that the company duly pays all taxes for which it is liable.

**Department of Issue.** The *secretary, registrar, or other officer* (frequently the *manager of selection*) in charge of issues prepares the policy in all cases where the application has been approved and keeps a record of all policies issued. This record is a source of information for all departments on such matters as the name of the insured and of the beneficiary, the description of the policy, its plan, and its amount. Upon it will be entered all records of assignments, changes of beneficiary, and other amendments to the contract. It is necessary for other departments to keep, for their own purposes, records of all policies issued, and the registrar must therefore furnish to all departments concerned details of each policy issued to enable them to make the records that they require. This is usually done by preparing a set of "punched cards" for each policy issued, which include all the data required by the various departments. For example, such records must be kept by the comptroller for use in the accounting of premium payments, and by the

actuary for the purpose of calculating reserves and dividends and compiling mortality experience.

**Accounting Department.** The officer in charge of the accounting department is generally called the *comptroller*. He is responsible for the proper accounting of all the financial transactions of the company. He keeps the individual records of premium payments and maintains the necessary ledgers and other books required to record all receipts and disbursements and all accounts necessary for the preparation of the company's financial statements. An important part of the duties of his department is the examination and audit of all financial statements sent to the home office by the various agencies of the company as well as the periodical audit of the books kept at branch offices. The comptroller is responsible for notifying other departments concerned when the premium on any policy is not paid in order that any action necessary to carry out the terms of the contract may be taken at the proper time.

**Financial Department.** The *treasurer* or other officer in charge of investments has custody of the securities in which the company's funds are invested and is responsible for keeping records of all transactions in connection therewith. His most important duty is to keep all investments under observation and to make recommendations about purchases and sales. He will make recommendations to the finance committee in regard to investments available for the company's funds and furnish information about the amount of money available for investment. He also reports on the standing of banks in which the company's money is to be deposited and regulates the amounts of balances that should be maintained. In connection with the recording of investments, he will maintain records showing the amortized values of bonds where such values are used and will keep such records as are necessary to prepare the financial schedules of the convention blank.

The *cashier* of the company acts under the treasurer or the comptroller and takes charge of the cash transactions, including the receipt of premiums, interest, and other income and the payment of death claims, surrender values, dividends, and expenses.

The department of policy loans, in which loan notes are prepared

and in which records of policy loans and interest are kept, is in some companies under the jurisdiction of the treasurer.

**Secretary's Department.** The *secretary* is responsible for the handling and filing of correspondence and has custody of the main records and documents relating to policies issued, including assignments or other notifications of claims against policies in force. It is also the duty of the secretary to record the proceedings at board meetings and at the meetings of the various committees of the board and, where required by law, to file copies of the minutes of such meetings with the state insurance department. Usually the secretary is in charge of all matters relating to the personnel and, in some companies, of general office administration and planning.

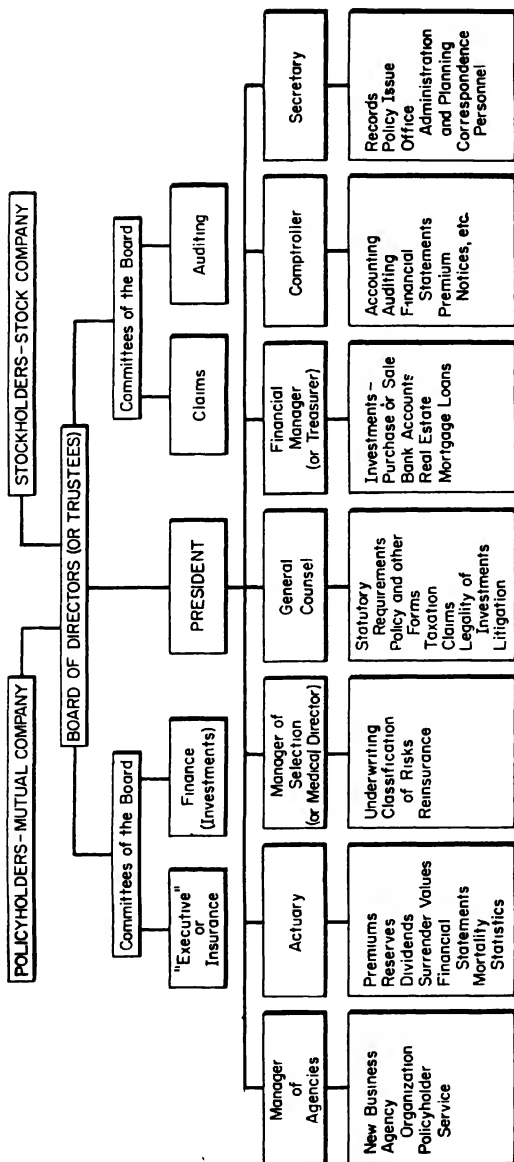
The chart on page 428 shows a typical home-office organization of a life-insurance company.

## THE FIELD

**Necessity for Agents.** Applications for insurance rarely come unsolicited but must be secured by the active efforts of soliciting agents. The expense consequent upon the employment of agents is sometimes criticized. Experience shows, however, that if soliciting agents are dispensed with the amount of business secured will be small. All state plans of life insurance operated without soliciting agents, such as those of Canada and Great Britain and that of Wisconsin, have been practical failures as regards the amount of insurance obtained, which has been so small as scarcely to justify their existence. In Great Britain comparatively few people even know that the government issues policies of life insurance, while the general objection to the red-tape methods associated with government operation undoubtedly prevents many from taking government policies.

The need for solicitation to overcome the natural inertia of those who should have insurance was demonstrated by the experience of the federal government in connection with War Risk Insurance and National Service Life Insurance offered to those in the military and naval services. In spite of the obvious necessity for, and generous terms and advantages of, this insurance, it was

**TYPICAL ORGANIZATION CHART OF A LIFE-INSURANCE COMPANY**  
(Doing "ordinary" business only)



**NOTE:** This chart shows only the principal duties of each department. Other duties and functions are described in the text. The above is not a standard or uniformly followed organization by departments. Organization and duties of departments (or officers) vary considerably in different companies. For example, claims are, in many companies under the secretary; office administration and planning are sometimes under the comptroller; policyholder service may be under the secretary. The particular organization shown is, therefore, to be considered as a "sample" or "typical" organization.

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found necessary to adopt active and aggressive methods of solicitation to induce many of those who were eligible to apply for it.

A limited exception to this general rule is the system of savings-bank life insurance which has been in operation in Massachusetts since 1908, in New York since 1939, and in Connecticut since 1941. Although substantial amounts of insurance have been issued under the savings-bank system and although the cost has been low, the total amounts have been small as compared with the amounts issued in these states by the regular companies.

It is therefore well established that the only way, in ordinary circumstances, to secure any considerable volume of business is to employ soliciting agents. It is remarkable that life insurance which to most people is one of the necessities of life, must be sold by active solicitation, but such is the case.

In the United States and Canada the agency system has been developed to a much greater extent than in any other countries, and the business of selling life insurance is followed by many thousands of persons, both men and women, as an exclusive occupation. In other countries the majority of agents sell life insurance only as opportunity offers and as a means of supplementing their income from other sources. The result is that in other countries both the total amount of insurance in force and the amount per capita are relatively small.

**Classes of Agents.** Life-insurance agents (now more frequently described as "life underwriters" or "field underwriters") are of three classes: (1) full-time agents, (2) part-time agents, and (3) brokers.

A full-time agent is under contract, as a rule, to only one company and places all his business in that company—except for any "excess business" (amounts in excess of his own company's maximum retention or business otherwise not acceptable by his own company), which he may place in other companies. In most companies a large proportion of all business issued is obtained from full-time agents.

Part-time agents (also, usually, under contract to only one company) were formerly very numerous; but, in view of the developments in the selection, training, and compensation of agents,

they now form only a small part of the agency force. Usually a part-time contract is granted only (1) where the character of the territory is not such as to yield sufficient business for a full-time agent or (2) as a temporary measure to enable the agent to test his ability as a life-insurance salesman.

A broker transacts insurance business of all kinds on behalf of his clients.<sup>3</sup> He usually has contracts with a number of different life-insurance companies, placing his business in accordance with the wishes of his clients or in accordance with his own interest. Usually a broker has no special knowledge or training in life insurance and is not subject to the same degree of control by the company as are its regular agents. Some companies do not accept business direct from brokers and require that all business shall come through one of their own soliciting agents. This requirement is made for the protection of the regular full-time agents. It is apparent that, since life insurance is, generally speaking, more complicated than any other form and since the purchase of a life-insurance policy usually involves at least some element of investment and the payment of premiums during a long period of years (whereas other forms of insurance are written on short-term contracts), the sale of life insurance calls for expert knowledge and advice on the part of the agent.

Some companies feel that brokerage business is less desirable than business secured through the regular full-time or part-time agents. One reason for this feeling is the prevalence of applications for large amounts, or of "borderline" risks, where the case is apt to be "shopped around" by a broker in order to secure the most favorable terms.

**Selection and Training of Agents.** One of the most notable developments in the life-insurance business in recent years has been the increasing attention given to the selection and training of agents. Formerly the agent was regarded purely as a salesman. Virtually anyone who could obtain applications for insurance could get an agent's license. He received little or no education or

<sup>3</sup> A broker is, by legal definition, the *agent of the insured* in placing insurance, but in life-insurance circles the term *broker* is frequently used to designate an agent of more than one insurer (company).



training, even in salesmanship, and was frequently poorly equipped to act as a life-insurance adviser. His life in the business was frequently very short.

Today the agent is a carefully selected and well-trained expert in life insurance who is competent to, and does, give sound advice and continuing service to his clients. Most companies now select agents in the first place on the basis of an aptitude test such as that developed by the Life Insurance Agency Management Association. This eliminates, at the beginning, most of those who are not likely to succeed, and makes for permanence in the business of those who are selected. Attention is also paid to such factors as education, previous occupations, community activity, and personality. When a new agent is selected, he is now required in practically all companies to take the educational courses prescribed by the training division of the agency department, which covers life-insurance fundamentals, the contracts and practices of the company, and approved sales methods. The period of training may last for 6 months or a year or longer and may involve attendance at agents' schools at the company's home office.

An important development in the educational field was the organization in 1927 of the American College of Life Underwriters, which grants, upon examination and subject to fulfilling certain requirements of practical experience, the designation of Chartered Life Underwriter (C.L.U.). Its examinations cover a wide range of subjects. An increasing number of agents are qualifying for this designation, which is recognized as an indication of professional standing.

**Licensing of Agents.** All states now require life-insurance agents to secure a license from the state insurance department or other department having control of insurance matters. Some states require the applicant to pass an examination before a license is issued. This is a desirable and even a necessary rule for the better protection of the public. However, there is less need for it now than formerly, in view of the much stricter rules of companies regarding the appointment of agents and their educational requirements. In some states the license sets forth the name of the company with which the agent is under contract or for which he

is to solicit insurance. In such states an agent, if he wishes to transact business for more than one company, must secure a separate license for each company. However, unless the agent is carrying on a general brokerage business, he will, as a rule, be required by the terms of his contract to work for one company alone. Other states grant a license which permits the agent to solicit applications for any company operating in the state. In some of the Southern states local licenses are required by county authorities in addition to a state license. Such license requirements are for purposes of revenue.

**Agents' Contracts.** The soliciting agent receives a contract either from the company or, where the company operates on the general-agency system (as explained below), from its general agent. Under the general-agency system the contract is with a general agent operating in a particular locality and not with the company itself. The contract sets forth the rates of commission that will be paid on new premiums and on renewal collections.

Other clauses in the agent's contract detail the obligation of the agent to pay over to the company without delay all premiums collected by him on its behalf, notify him that he is not authorized to make any alterations or modifications in the terms of the company's policies, and prohibit *rebating*. Rebating is the granting to the person insured, as an inducement to take the policy, a part of the commission paid to the agent by the company. In former years, the practice of rebating was common. It was found that it had a tendency to increase commission rates, since the agents, in order to meet practical conditions, were compelled to pay out part of their compensation and demanded a higher rate to enable them to do so. This practice increased the cost of insurance to the policyholder. In some states rebating is a penal offense for which both the agent and the person accepting the rebate may be punished by fine or imprisonment.

**Methods of Compensation.** Methods of compensating agents have received much study in recent years. The traditional method, under which the agent receives a relatively high percentage commission on the first year's premium, with renewal commissions of much smaller amount for a limited period, has some serious

defects. It grew up during a period when it was considered that the agent was purely a salesman whose only duty was to get new business and when he was not required to furnish advice or service to the policyholder once the policy had been sold.

During this period the emphasis, so far as the agent was concerned, was all on volume of production. The successful salesman could make a good income from the start, so long as he continued to write a substantial amount of new business; but if his production decreased, as it was apt to do as he grew older, his income rapidly decreased and eventually ceased altogether. Some agents had sufficient foresight to make provision during the prosperous years for the lean years ahead, but many did not.

From the company's point of view the system also has serious disadvantages. One of these is that the concentration of expense in the first policy year creates, as has been explained, practical difficulties in the accumulation of reserves on the net-level-premium plan. In addition to the troublesome problems of responsibility for agents who had served the company for long periods and who were left without adequate income in their later years, there was apt to be a large turnover in agency personnel. The system of fully vested renewal commissions meant that there was less inducement for the agent to remain in the service of the same company or even to stay in the life-insurance business, so that substantial amounts were paid to men no longer with the company and performing no service either to the company or to its policyholders. Commissions, whether new or renewal, were thus, in effect, compensation for obtaining new business. Too large a proportion of the total remuneration of a long-established agent was dependent upon first-year commissions, resulting in heavy reductions in income in years of low production. Although formerly comparatively little was done in the way of training or education of new men, this turnover was wasteful and expensive to the companies. Moreover, the system of high first-year commissions meant that it was sometimes more to the agent's financial interest to write a new policy than to keep an old one in force. Coupled with the fact that the agent was not usually expected to do much, if anything, in the way of service to existing policyholders, this

naturally tended to have an adverse effect on the persistency of business after it was written.

Modern methods of compensation are based on an entirely different conception of the duties and functions of the agent and his relationship to the company and its policyholders. They depend to a large extent on the permanence of his association with the company.

Two broad principles are now fully recognized: (1) that the agent is not merely a salesman but must be a properly qualified life-insurance adviser and (2) that compensation should be related to the extent and quality of the services performed and should, so far as possible, be on a basis which will tend to equalize the agent's earnings over his active life.

The first of these principles requires that (as is now the case) new agents be carefully selected with regard to their ability, qualifications, and probable success, and also that they should be thoroughly trained in all matters on which they will be called upon to advise both prospective and existing policyholders. The second requires that proportionately less of the agent's total earnings depends on the volume of new insurance written and more on services actually rendered to existing policyholders. This implies, in general, a somewhat lower rate of first-year commission and higher rates of renewal commission, particularly in the early policy years, than were previously used; it also requires the replacement of fully vested renewal commissions payable for only a few years by a system of nonvested renewals supplemented by "service fees" continuing throughout the duration of the policy or, at least, during the whole of the premium-paying period. In many companies these are now further supplemented by a retirement allowance paid for during the active years by contributions from both the agent and the company and based on the agent's earnings.

These changes have already resulted in attracting many men and women of high caliber to the life-insurance business and have gone far toward the establishment of a professional standing for "field underwriters." They are of great benefit to all concerned—the policyholder, the company, and the agent.

A practical problem in connection with these changes is the

establishment of the new agent and the provision of an adequate income for him during the training period and before he "gets into production." New entrants in this business, as in other businesses, should be prepared, to some extent at least, to finance themselves; but, as a practical matter, some assistance will usually be necessary. Formerly the only assistance available to the new agent was in the form of advances against commissions to be earned. This meant that the new man frequently began by accumulating a burden of debt which it took him a long time to repay and which sometimes resulted in his abandoning the business.

This system, applied indiscriminately, sometimes resulted in considerable expense to the company, its manager, or its general agent through the failure of agents to repay advances. It is still necessary to finance new agents either by advances against commissions or by the payment of salaries when this can be done within the provisions of state laws regulating agents' compensation. The situation, however, is much better than it was because, where the agent is carefully selected in the first place, the percentage of failures is relatively low. Some companies have adopted salary plans effective during the first year or two by which the amount of salary is definitely related to the *work done* by the agent in soliciting and closing business rather than to the volume of insurance sold. With proper control and supervision, including early termination of the contract where the indications of success are clearly unfavorable, such a plan works well both for the company and for the agent.

### ORGANIZATION OF THE FIELD

To what extent the establishment of branch offices should be carried is a question the answer to which depends on a variety of considerations. Some expense is involved in entering new territory, and in the matter of expense a young company is limited. In any case the volume of business that a small or recently organized company can handle is limited, for reasons which have been explained in Chapter 6, and as a rule such companies do not, for some time, operate in more than a few states. Other con-

siderations for such companies are the reserve requirements of the various states, the amount of taxation, and the prospects of success, particularly with regard to competition.

There are two principal systems of organizing the field forces of a company: the *general-agency* system and the *branch-office*, or *manager*, system.

**General-agency System.** Under the general-agency system, a general agent is given the exclusive representation of the company in a specified territory. The general agent receives a contract from the company under which he is paid the maximum rates of commission on all business secured in his territory. He may, in addition, be paid collection fees or allowances in respect of renewal business and usually also a contribution toward the expense of maintaining his office. He is entirely responsible for the organization and remuneration of the agency force in his territory, and the agents whom he appoints make their contracts with him and not with the company. The other work of the company in the territory, such as the collection of premiums and loan interest and all other routine transactions with policyholders, may be in charge of the general agent, or he may leave them entirely in the care of a separate salaried force of the company working under his direction but not employed by him. It is of some advantage to the general agent to have the means of contact with the company's policyholders that such routine operations afford. On the other hand, the necessity of attending to numerous matters of detail may prevent him from devoting the majority of his time to his principal duty, that of securing new insurance.

In this duty the general agent may rely chiefly on his own efforts; or he may endeavor to secure results by employing a large agency force. He may be, and usually is, a large personal producer of business; but, whether he is or not, he should give to his sub-agents such opportunities and such rates of commission as will attract and retain the best men obtainable. In this way he will build up a considerable volume of business, the income from which, represented by the margin between the commission he receives from the company and the commission which he pays under his own contracts with individual agents, will, together

with his personal business, probably eventually exceed the amount which he would realize from personal production alone.

**The Branch-office, or Manager, System.** Under the branch-office system of agency organization, the company's representative in the field is a salaried manager who acts in all matters and with all subsidiary employees and agents on behalf of the company. The manager's salary usually consists of a base salary independent of production, with additional remuneration depending chiefly on the amount of new business produced and on the persistency of the business produced. Other factors sometimes enter into the manager's salary "formula," such as the number of new agents secured. "New organization" is important in the maintenance and growth of the production of the agency. In addition to salary the manager may receive commissions on personal production, although, as a rule, it is not intended that he compete with the regular agents. The contracts of the agents appointed by the manager are made with the company, and all expenses of the manager's office are paid by the company.

Since the production of new business is his most important duty, the qualities required in a manager are similar to those necessary in a general agent. He may have been a good personal producer or an associate or assistant manager who has proved his ability to stimulate and instruct agents. The manager, being the company's representative, is in charge of all the company's business in his territory and cannot, therefore, spend much of his time in the personal pursuit of new business. The extent to which he does so depends largely on the individual and on the size of the agency.

**Comparison of the General-agency and Manager Systems.** Each of these systems has advantages from the companies' point of view. Although, in recent years, there has been a trend toward less difference than formerly in the operation of the two systems, the essential differences are as follows: (1) the general agent is an *independent contractor* remunerated on a commission basis, while the manager is a *salaried employee* of the company; (2) under the general-agency system subagents are under contract to the general agent and receive compensation on the scale determined by him, whereas under the manager system agents receive

their contracts directly from the company and, in general, are compensated on a uniform and standard commission scale (with, possibly, other forms of remuneration, such as company contributions to an agents' pension plan or to the cost of an agents' group-insurance plan); (3) a general agent pays the expenses of operating the agency, receiving, however, an expense allowance from the company, whereas, under the manager system, all expenses are paid by the company; and (4) the general agent is primarily a *salesman* and normally produces a large volume of insurance personally, while the manager is primarily an *administrator* who may or may not write personal business.

The principal advantages of the general-agency system are (1) freedom of the home office from many of the details of the administration of new-business production; (2) decentralization of control of agents, thus tending to development of practices suitable to different areas; (3) greater coordination of production and cost. On the other hand, the manager system (1) gives the home office full control over all its agents; (2) tends to greater uniformity in the quality and training of agents, (3) is more likely to encourage the development of an agency force (which is one of the principal duties of the manager); and (4) generally results in a somewhat lower cost of operation.

As indicated above, there is less difference now than formerly in the practical operation of the two systems. In some companies the compensation of managers is being made more dependent on production and growth, while there is a tendency in the general-agency companies to assume more direct responsibility for expenses and to require uniform methods in the selection and training of new agents.

**Internal Organization of Field Offices.** The internal organization of a branch office, or general agency, is modeled to some extent on the home office. The principal departments will be those having to do, respectively, with the appointment and supervision of agents, with the selection of risks (including both the medical examination of applicants and the securing of reports or inspections), and with the accounting and control of routine matters. In a large agency the manager, or general agent, frequently has an



assistant manager or an agency supervisor. In addition, his staff includes a medical referee (or chief local medical examiner) a cashier, and other necessary office help.

### REVIEW QUESTIONS

1. Make a chart showing the typical internal organization of a life-insurance company.
2. What is an "executive officer"?
3. State some of the principal duties or responsibilities of (*a*) the actuary; (*b*) the manager of agencies; (*c*) the manager of selection; (*d*) the financial manager; (*e*) the comptroller; (*f*) the general counsel.
4. Discuss the need for the employment of soliciting agents by life-insurance companies. In what ways have the quality and status of soliciting agents changed in recent years?
5. What are some of the considerations which determine the system of remuneration of soliciting agents?
6. Explain the differences between the general-agency system and the branch-office system of field organization. What are the principal advantages to the company of each of these systems?

# Regulation and Taxation

## GOVERNMENTAL REGULATION

**Reasons for Governmental Supervision.** Adequate reasons exist for governmental supervision of the business of life insurance. Paramount among these are (1) the public interest, arising from the function performed by life insurance and the extent of its distribution, coupled with the magnitude and extent of the companies' financial operations, and (2) the highly technical and essentially unilateral character of the life-insurance contract.

The extraordinary growth and wide distribution of life-insurance coverage in the United States have made the proper management and financial soundness of the companies a matter of concern to the body politic and "in the public interest." Life insurance is, for many insureds, the only voluntary provision for dependents or for their own old age; and, partly because of present high individual taxes, it is also, for many, the only form of savings. By stabilizing family units financially at the death of a breadwinner, particularly through the payment of a stated income rather than a lump sum, by providing guaranteed life incomes to individuals after retirement, and by providing guaranteed loan values during periods of financial strain, life insurance is a significant factor in the stability of our national economy. In the accomplishment of these ends, the companies at all times keep invested in satisfactory income-producing investments funds now (1957) aggregating more than \$90 billion. With some individual companies numbering their policyholders in millions and their assets and insurance in force in billions of dollars, the public interest manifestly requires some governmental supervision.

A further reason for governmental supervision arises from the technical nature of the business and the necessarily technical and essentially unilateral character of the life-insurance contract.

The life-insurance business operates on a long-term basis, with generally many years of premium payments by the policyholder before the company is called upon for payment. In order to meet its obligations as they fall due, adequate reserves must be built up, based on appropriate assumptions about future rates of interest and mortality. The establishment of minimum reserve standards, therefore, forms an important part of governmental regulation. Under the net-level-premium-reserve system, policyholders' equities arise, and the regulation of minimum cash-surrender values and other nonforfeiture values is also an important aspect of governmental regulation.

The character of the life-insurance contract itself is a basis for regulation. Of necessity, the policy contract is to some extent a technical document, containing a certain amount of technical expression and legal phraseology so that its meaning may be specific on each point covered. It is not always feasible to use terms familiar to the average policyholder, who is generally unacquainted with some of the precise language used and with the principles of life-insurance law. The document is necessarily lengthy, and like most insurance policies of other kinds, rarely read carefully by the policyholder. It is a unilateral contract, written by the company, while the policyholder, the other party to the contract, has no part in its preparation. In order to protect him from the insertion of provisions the effect of which would not be apparent to the average policyholder, but which would limit the benefits of the policy—such as a provision that all statements of the insured shall be considered to be *warranties*<sup>1</sup>—or from the omission of other provisions, such as those dealing with nonforfeiture or reinstatement, the lack of which he might well not notice, statutory requirements for the inclusion of standard provisions<sup>2</sup> and requirements for insurance-department approval of new contract forms are appropriate spheres of governmental regulation.

<sup>1</sup> See p. 177.

<sup>2</sup> See p. 211.

**State or Federal Supervision?** Historically, the right to regulate the insurance business has been assumed and exercised by the states, and until 1944 that right was considered to rest exclusively with the states. Under the Tenth Amendment to the Constitution, all powers not specifically delegated to the federal government are reserved to the states. Although in Article 1, Section 8, the power "to regulate commerce . . . among the several states" is delegated to the federal government, insurance was not regarded as "commerce," and accordingly an insurance business, even though operating beyond the limits of a single state, was not deemed to be interstate commerce, and therefore was not subject to federal regulation. The United States Supreme Court so held in 1869, in the case of *Paul v. Virginia*,<sup>3</sup> in which an agent had refused to comply with certain laws of the state of Virginia on the ground that insurance was "commerce" and that therefore the state government did not have the right to enact or enforce such laws. The Supreme Court decided against this contention, stating that "issuing a policy of insurance is not a transaction of commerce," and that insurance policies "do not constitute a part of the commerce between the states."

Despite this decision, the officers of some life-insurance companies felt that federal supervision was desirable. During the period between 1870 and 1905, the year of the Armstrong investigation, supervision in some of the states was lax, inefficient, and incompetent. Dubious practices were permitted, and a number of companies failed. Furthermore, state legislatures tended to enact discriminatory laws favoring companies domiciled in their own states while penalizing companies from other states. Some states, for example, denied admission to a company of another state unless the company agreed to relinquish its constitutional right of appeal to the federal courts in event of litigation with policyholders or others or with the state. Efforts to secure federal supervision continued. It was felt by some that if Congress were to enact a law giving regulatory power to the federal government it might be upheld by the Supreme Court. Efforts in 1892 and 1897 to secure passage of such a congressional enactment failed, and when the

<sup>3</sup> Wall. 168 (U.S. 1869).

Supreme Court in 1913, in the case of *New York Life v. Deer Lodge County*,<sup>4</sup> followed the earlier holding in *Paul v. Virginia*, it was generally assumed that the right to regulate insurance had been settled as exclusively in the states.

Since 1913, sentiment has come to favor exclusive state regulation. The character of state supervision has improved, and the attitude of the state legislatures is no longer hostile. Credit for these changes goes in no small part to the National Association of Insurance Commissioners, which has also been instrumental in securing passage of some uniform legislation and in some instances in eliminating duplication, as in the procedure for valuation of unlisted securities by a centralized office. The general favor in which exclusive state regulation is held is increased by substantial doubt about the nature and extent of possible federal regulation.

In view of this background, many were shocked when on June 5, 1944, the United States Supreme Court, in deciding the case of *United States v. South-Eastern Underwriters Association*,<sup>5</sup> held that the business of insurance was commerce and that when conducted across state lines it was interstate commerce and therefore subject to the Sherman Antitrust Act. This case was a criminal prosecution in the United States District Court for the Northern District of Georgia against an organization of fire-insurance companies operating in Georgia and surrounding states, and against its officers and member companies, alleging a conspiracy to fix and maintain arbitrary and noncompetitive premium rates and to monopolize trade and commerce in violation of the Sherman Antitrust Act. The Court's opinion, by Justice Black, distinguished the line of cases starting with *Paul v. Virginia*, holding that the earlier cases involved the validity of state statutes and that this was the first case squarely presenting the question of whether the commerce clause grants to Congress the power to regulate insurance when conducted across state lines. On the same day, the Court held in a unanimous decision in the case of *Polish National Alliance v. National Labor Relations Board*<sup>6</sup> that a fraternal-benefit society was

<sup>4</sup> 231 U.S. 495 (1913).

<sup>5</sup> 322 U.S. 533 (1944).

<sup>6</sup> 322 U.S. 643 (1944).

subject to the National Labor Relations Act, because the defendant was an insurance company and its operations "affect" commerce within the meaning of that act.

The sweeping implications of the South-Eastern Underwriters decision made it apparent that numerous readjustments would be required to reflect the status of the insurance business under existing federal laws. In order to allow time for these adjustments to be made, Congress enacted the McCarran Act, Public Law 15 of the Seventy-ninth Congress (approved Mar. 9, 1945), which established a moratorium period until Jan. 1, 1948, during which the Fair Trade Commission Act, the Sherman Antitrust Act, the Clayton Act, and the Robinson-Patman Antidiscrimination Act should not apply to the insurance business, except for the provisions of the Sherman Act concerning boycott, coercion, and intimidation. The moratorium period was later extended to June 30, 1948. The McCarran Act further provided that only after the expiration of the moratorium period would the enumerated federal laws apply to the insurance business, and then only to the extent that such business is not regulated by state law.

The McCarran Act also contained a declaration by Congress that the continued regulation and taxation by the states of the business of insurance is in the public interest and that silence on the part of Congress shall not be construed to impose any barrier to the regulation or taxation of such business by the states. Further, provided the Act, the business of insurance, and every person engaged therein, shall be subject to the laws of the states that relate to the regulation or taxation of such business.

In connection with his approval of the McCarran Act, President Roosevelt issued the following public statement on Mar. 10, 1945:

I have given my approval to S. 340, the insurance bill, which passed the Congress last week. This bill grants the insurance business a moratorium from the application of the anti-trust laws and certain related statutes, except for agreements to boycott, coerce, or intimidate, or act of boycott, coercion, or intimidation, until January 1, 1948.

The purpose of this moratorium period is to permit the States to make necessary readjustments in their laws with respect to insurance

in order to bring them into conformity with the decision of the Supreme Court in the *South-Eastern Underwriters Association* case. After the moratorium period, the anti-trust laws and certain related statutes will be applicable in full force and effect to the business of insurance except to the extent that the States have assumed the responsibility, and are effectively performing that responsibility, for the regulation of whatever aspect of the insurance business may be involved. It is clear from the legislative history and the language of this Act, that the Congress intended no grant of immunity for monopoly or for boycott, coercion, or intimidation. Congress did not intend to permit private rate-fixing, which the Anti-trust Act forbids, but was willing to permit actual regulation of rates by affirmative action of the States. The bill is eminently fair to the States. It provides an opportunity for the orderly correction of abuses which have existed in the insurance business and preserves the right of the States to regulate in a manner consonant with the Supreme Court's interpretation of the anti-trust laws.

the United States Supreme Court disposed of two questions raised as a result of the *South-Eastern Underwriters* decision: (1) whether state laws regulating insurance violate the commerce clause of the United States Constitution, the business of insurance having been held to constitute interstate commerce, and (2) whether state laws taxing insurance violate the commerce clause. In *Robertson v. California*,<sup>7</sup> the Court upheld state regulatory power over insurance, *without* regard to Public Law 15. Specifically, the Court upheld the conviction prior to passage of Public Law 15 of one Robertson for violating two California statutes by acting in California as agent for a nonadmitted insurer and by acting as an agent without an agent's license. In *Prudential v. Benjamin*,<sup>8</sup> the Court, relying on Public Law 15, upheld the power of a state to impose a premium tax on the aggregate premiums received from business done in that state even though the tax applied only to foreign and not to domestic companies. Congress, said the Court, in enacting Public Law 15, must be assumed to have done so with knowledge of existing state taxing and regulatory legislation and must have intended to give its support to such legislation. A week later the United States Supreme Court affirmed,

without opinion, decisions of the Kansas Supreme Court upholding the regular Kansas premium tax and the Kansas premium tax imposed under its retaliatory law on companies from a foreign state to the extent that such foreign state's tax exceeds the Kansas tax.

Meanwhile the National Association of Insurance Commissioners, which as early as 1943 had adopted a resolution favoring continued regulation of the insurance business by the several states, cooperated with an "All-industry Committee," comprised of 22 national insurance organizations representing all branches of the insurance business, in working out a pattern for state legislation to strengthen existing state insurance regulatory laws so as to meet the challenge of the McCarran Act.

As a result of the activities of the N.A.I.C. and the All-industry Committee, all states, as well as Alaska, Hawaii, and the District of Columbia, have enacted fire-and-marine and casualty-and-surety rate regulatory laws. By the end of 1955, 37 states and Hawaii had enacted fair-trade-practices laws prohibiting unfair competition or unfair practices in the business of insurance and, as for certain unfair acts and practices, empowering the insurance commissioner to issue cease-and-desist orders after prescribed notice and hearings. Mississippi joined their ranks in 1956, and in 1955 Oregon adopted an abbreviated version of such a law limited to false advertising. This brings the total to 40 jurisdictions as of the middle of 1956. Forty-one states and Hawaii have enacted service-of-process laws designed to give a state's courts jurisdiction over an insurer issuing policies in that state without authorization to do business there. Almost a third of the states have enacted laws providing generally that insurance corporations may have interlocking directorates if competition is not substantially lessened and no monopoly is created thereby, and in some instances providing for the acquisition of capital stock of other insurers subject to similar limitations.

The constitutionality of the McCarran Act, Public Law 15, was upheld by the United States District Court for Arkansas in September, 1949, in the case of *North Little Rock Transportation Co. v. Casualty Reciprocal Exchange et al.*<sup>9</sup> The plaintiff taxicab company had charged a violation of the Sherman Antitrust Act in that



the insurers, including the National Bureau of Casualty Underwriters and its members, had engaged in a conspiracy in restraint of trade. The plaintiff argued that the Arkansas Rate Regulatory Law violated the Sherman Act and that the McCarran Act was unconstitutional in so far as it validated such state regulatory laws. The court, however, although holding that the price-fixing activities involved would have violated the Sherman Act were it not for the Arkansas Rate Regulatory Law, held that this state law was a proper regulation of insurance as provided for in the McCarran Act; that the McCarran Act is a proper division of power between the federal government and the states and not an improper delegation of power to the states; and that the state regulatory law does not violate the state law or constitution. This decision was affirmed by the United States Court of Appeals for the Eighth Circuit in April, 1950,<sup>10</sup> and petition for review was denied by the United States Supreme Court in October, 1950.<sup>11</sup>

Meanwhile, two cases of interest were considered by the United States Supreme Court. The first of these cases was *Travelers Health Association v. Virginia*,<sup>12</sup> in which the Court handed down a decision concerned with the right of the state of Virginia under its "blue-sky" law to impose certain restrictions on nonadmitted companies who were selling insurance in that state by mail. Because of the nature of the case and the attention directed to it during its consideration, it was hoped that the decision would be definitive on the validity of unauthorized-insurers service-of-process laws. However, the Court limited its findings to a holding that a Nebraska association soliciting new members and delivering policies through the mail and investigating claims submitted to it had made sufficient contacts within the state to support the state's contention that it had jurisdiction. The court upheld the power of Virginia to enforce a cease-and-desist order or to require the insurer to accept service of process by Virginia claimants on the secretary of the commonwealth. In the second of these cases, in 1951, the Court refused to review a decision of the United States Court of Appeals

for the Seventh Circuit in *United States v. Sylvanus*,<sup>13</sup> a case involving a charge of using the mails to defraud, in violation of federal statutes, in the sale of accident and sickness insurance. The court held that the federal statutes involved in this case had nothing to do with the regulation of the insurance business and rejected the defendant's contention that, since the McCarran Act provided that insurance is to be regulated exclusively by the states, federal laws do not apply to that business. The Court said that the McCarran Act was not intended to surrender control of the use of the mails to the states and that the prosecution of an offense by the federal government did not interfere with regulation of the insurance company by the state even though the matter involved a transaction forbidden by state law. These decisions were not of any outstanding significance, since the Travelers Health Insurance case skirted the direct question of validity of the unauthorized-insurers service-of-process act and the Sylvanus case involved a federal statute regulating the mails which was of such general application that it could have been enforced even before the South-Eastern Underwriters decision.

For a time matters were rather quiet, with the only apparent activity the adoption in 1950 of the Fair Trade Practice Code for the mail-order business by the Federal Trade Commission. State statutes were enacted designed to sustain the power of state regulation. A number of states added not only the model fair-trade-practices law and the unauthorized-insurers service-of-process act but also the model act of the National Association of Insurance Commissioners relating to individual accident-and-health-policy provisions. This latter law, which had been enacted in 42 states and the District of Columbia and Hawaii by the middle of 1956, contains standards for the conduct and regulation of the individual accident-and-health insurance business which were considered by the N.A.I.C. to be sufficiently stringent to remove any criticism of state laxity. In view of the publicity given to complaints and investigations of unfair advertising in the accident-and-health-insurance business, many observers thought this field was to be the prime target of the Federal Trade Commission. The predictions

became a reality when, in October, 1954, 17 complaints were issued by the Federal Trade Commission in connection with advertising of accident and health insurance. Strenuous efforts were made by the states to buttress state regulation, and the N.A.I.C. took the lead in proposing a set of rules for accident-and sickness-insurance advertising. Additional companies were cited, and litigation was started by the Federal Trade Commission. Conferences and joint hearings were held with the Commission, and rules, together with a proposed interpretative guide spelling out in greater detail the requirements for legal advertising, were proposed as a method of demonstrating to the Commission that the states were taking effective steps in the regulation of this problem area.

In the midst of all this activity there suddenly burst upon the scene in April, 1956, the decision of the Federal Trade Commission in the American Hospital and Life Insurance Company case,<sup>14</sup> one of the original 17 complaints. The majority opinion, in a three-to-two division of the Commission, states that it has exclusive jurisdiction in all interstate matters that come within its scope of activities and that the only areas reserved to the states are those of intrastate affairs. The press releases of the Commission heralded this decision as "the Commission's answer to the jurisdictional issue." The Commission had originally filed complaints against 41 companies, and 36 of the answers contended that the Commission lacked jurisdiction. In December, 1955, the Commission's hearing examiner had issued an initial decision in the American Hospital case supporting this view, in which he said that not only did the Commission fail to prove any charges against the company but that also the Commission had jurisdiction only in Mississippi, which then did not have a model fair-trade-practices law.<sup>15</sup> The decision of the Commission reversing its hearing examiner has created confusion which will not be dispelled until the issue is finally determined by the United States Supreme Court. At the present writing (1957) the course of those who support state legislation is not entirely clear. It is quite apparent that they must bring the issue to

the highest court, but the exact method for doing so has not been determined. *Amicus curiae* briefs will probably be filed by the various trade associations in the insurance business, and the N.A.I.C. has recommended to its constituent members that action be taken by the individual states. The future of state supervision is uncertain, since the decision can have far-reaching effects beyond the field of advertising to which it was directed. Students of the jurisdictional question have varied views, and the question can be resolved only by the United States Supreme Court or by Congress.

There is little likelihood that the Federal Trade Commission will be completely ousted from the regulatory field. The theory has been advanced that at least the Commission can be expected to retain a species of concurrent jurisdiction in which it will act wherever the states are not adequately performing the regulatory task that they have set for themselves in adopting the various model acts.

**Development of Governmental Supervision.** In the first half of the nineteenth century the few life-insurance companies then existing were not, as such, subjected to special governmental control. They were required, however, to make such reports to the state departments as were required from moneyed corporations of other kinds. Later, a special questionnaire was introduced in New York for use in connection with the reports of life-insurance companies, but until 1864 some of the companies were exempted from these requirements by the terms of their charters.

A further development of the supervision of life insurance took place in 1851 when the state of New York introduced the principle of requiring a deposit of securities from the companies. This step was criticized as a discrimination in favor of large companies as against small ones (the deposit required being the same for all) and as against companies from other states, since nearly all the large companies were New York companies. The principle is of very doubtful value in view of the comparative insignificance of the deposit required and the inconvenience and trouble involved in handling it. Today such requirements apply generally only to domestic companies in their states of organization, out-of-state or

foreign companies being required only to furnish a certificate that such a deposit has been made in the domiciliary state. The New York Deposit Law was, in fact, probably responsible for introducing the idea of retaliatory legislation. While, at times, retaliatory laws were considered by many as representing one of the most objectionable features incident to control by the states, they have frequently proved salutary in restraining unwise or unwarranted legislation.

The first state to provide specifically for the supervision of insurance companies and to appoint officials for that purpose was Massachusetts, where, in 1852, the secretary, treasurer, and auditor of the commonwealth were appointed a Board of Insurance Commissioners. Three years later an independent board was created and a separate insurance department formed. The insurance department of Massachusetts performed its duties from the first in a vigorous manner and introduced at an early date some requirements which at first met with considerable opposition from the companies. The direct cause of the establishment of the Massachusetts department was the large number of failures of mutual-fire-insurance companies, and one of the earliest acts of the department was to establish a standard of solvency for life-insurance companies. This standard was rigorously enforced in the face of much opposition, and, although in some respects the requirements of the department were open to criticism, there is no doubt that the general effect on the life-insurance business was salutary.

The establishment of a standard of solvency was followed a few years later by a compulsory nonforfeiture law, which also was opposed by the companies. The principles involved in these two laws have, however, survived all opposition and are now well established as features of the control of the life-insurance business in the United States.

In 1859 an insurance department was established by the state of New York, and duties similar to those performed by the Massachusetts department were undertaken. In the next 10 years 35 states either established special departments for the supervision of insurance or delegated such supervision to specified officials appointed for the purpose.

One of the immediate results of the widespread increase in state supervision and the consequent stiffening of requirements was the failure of a number of the smaller and weaker companies, some of which had been operating on unsound lines, but many of which were merely unable to comply with the strict requirements of the insurance departments. Many of the failures that took place in the period from about 1865 to 1885 were due to extravagance and inefficient methods, and some to dishonesty, but the largest number were due to the strict enforcement of state requirements, particularly regarding reserves and the admissibility of assets.

With the formation of insurance departments and the appointment of supervising officials there came, also, developments in the laws regulating the organization of life-insurance companies. There was, and still is, much variation in the laws and requirements of the several states in regard to many details of supervision, but these differences were greatly diminished by the widespread revision of insurance laws which took place as a result of the Armstrong investigation in New York in 1905. Since that time the most important influence in the direction of uniformity of life-insurance legislation has been the recommendations made at the periodical meetings of the National Association of Insurance Commissioners.

**National Association of Insurance Commissioners.** The National Association of Insurance Commissioners, until 1935 the National Convention of Insurance Commissioners, has been in existence since 1870. Its original constitution, adopted in 1894, was superseded in 1935 by a new constitution and bylaws. The objects of the association are to promote uniformity in legislation and administrative rulings affecting insurance, to increase the efficiency of officials charged with the administration of insurance laws, and to protect the interests of policyholders. The present constitution provides for 13 standing committees, including committees on blanks, examinations, laws and legislation, life insurance, social security, taxation, and valuation of securities.

Early accomplishments of the association include (1) the adoption by all states of a uniform blank for companies' annual financial reports, known as the *Convention Blank*; (2) the acceptance by most states of a certificate of solvency issued by a company's

home state, thus eliminating the added expense and duplication of work required if each state were to verify the company's reserve calculations; and (3) acceptance of the principle that a deposit of securities should be required only in a company's home state.

Among the more important recent accomplishments of the association are (1) the adoption of uniform rules for the valuation in the annual statement Convention Blank of all securities; (2) the development of the *zone system* for the triennial examination of life-insurance companies by a team of examiners from various state departments under the general direction of the insurance department of the company's home state; (3) the preparation of a new standard mortality table for ordinary insurance (the C.S.O. Table); and (4) the drafting of a new standard valuation law and a new standard nonforfeiture law, laws which have resulted in a modern and uniform pattern in these respects in practically all states.

**Functions of the Insurance Commissioner.** At the present time state insurance departments and officials have a wide range of duties. The insurance commissioner, superintendent of insurance, or other official in charge is responsible for the approval and control of the organization of new companies. He is generally required to conduct a periodical examination of the business of the companies operating in his state. By controlling the licensing of agents, he ensures compliance with agents' qualification laws. Usually he is also charged with supervising the elections of company directors. In some states the insurance department annually checks the calculation of the policy reserve, while all departments require an annual statement of accounts and the other particulars called for in the Convention Blank. An important duty of the insurance commissioner in many states is the examination and approval of policy forms, application blanks, and other forms to be used within the state, in order to ensure that these comply in all respects with the laws of the state and are, in his opinion, free from objectionable features. In addition to these and other similar duties, the insurance commissioner frequently undertakes to investigate disputes between the companies and their policyholders on behalf of the latter.

## CANADA

**Regulation.** The federal system of government established in 1867 for Canada and its provinces resembles the United States federal system in many respects. The history of Canadian insurance regulation,<sup>16</sup> however, differs somewhat from that in the United States since *both* the federal and the provincial governments in Canada started regulating the insurance business at almost the same time and very soon after 1867. Consequently, conflicts over the respective jurisdictions of the federal government and the provinces arose much earlier in Canada than did conflicts in the United States between the federal government and the states. At the present time, however, the distribution of functions is fairly clear, and there is little duplication of effort and administrative control.

In 1868 a Canadian federal statute required all insurance companies doing business in more than one province to secure a license from the Minister of Finance, make deposits, and file annual statements. The federal Insurance Department was established in 1875 with authority to examine annual statements and investigate the financial position of insurers. Ontario led the provinces in insurance regulation when, in 1876, it required all companies doing business in the province without a federal license to secure an Ontario license from the provincial treasurer, make deposits, and submit to inspection. Ontario also started regulation of policy terms and conditions by a statute the same year, although this particular statute applied only to fire insurance. In later years, similar legislation followed in the other provinces and was extended to cover other types of insurance. By 1879 Ontario had an Inspector of Insurance, and by 1914 a Provincial Insurance Department with regulatory machinery similar to that of the federal Insurance Department. During the intervening years, all the other nine provinces have appointed superintendents of insurance.

Federal legislation in Canada was originally concerned mainly with the solvency and financial responsibility of the companies to



which it applied. Provincial legislation was concerned with the solvency of local provincial companies and with equitable insurance-contract provisions. Provincial power to legislate for all insurers on matters of contract provisions was established in an early case.<sup>17</sup> Conflicts arose, however, when conditions about the manner of doing business were included in the federal statute. The insurance acts of 1910, 1917, and 1927 were successfully attacked, at least in part, before the Judicial Committee of the Privy Council. The 1910 act, which required insurers to obtain a federal license, was held invalid and unsupported under the federal Parliament's powers to legislate for the peace, order, and good government of Canada, or for the regulation of trade and commerce.<sup>18</sup> The 1917 act, which required the inclusion of certain provisions in insurance contracts as a condition of securing a license and made it an offense under the Criminal Code to operate without a license, was held invalid and without support under federal jurisdiction over criminal law, aliens, and immigration.<sup>19</sup> The 1927 act, imposing an additional tax on unlicensed insurers, was held in 1932 to be an improper use of the taxing power.<sup>20</sup>

In 1932, following the Privy Council's decision, a complete revision of the federal insurance laws was enacted. All provisions regarding insurance contracts and the conduct of the business of insurance were eliminated or modified, and the functions of the federal Insurance Department were largely limited to questions of solvency. Careful language was used in the hope that the enactment, if challenged, could be supported under the federal Parliament's power over bankruptcy and insolvency.<sup>21</sup> The 1932 revision, as subsequently amended, constitutes the present federal insurance law, consisting of three independent statutes: the Department of Insurance Act, the Canadian and British Insurance Companies' Act, and the Foreign Insurance Companies' Act.

Under these acts, the federal Insurance Department licenses or "registers" British, foreign, and Canadian insurance companies incorporated by the federal Parliament and takes primary responsibility for their financial stability. It also licenses a few provincially chartered Canadian companies. It requires deposits, prescribes annual and statistical returns, conducts periodical examinations, publishes annual reports, and generally supervises the financial affairs of companies licensed by it.

The several provinces (except Nova Scotia) license all companies transacting business within their borders, even though most of them are licensed by the federal government. However, they do not duplicate the financial supervisory functions of the federal Insurance Department regarding federally licensed companies. Their function is to enforce the provincial laws relating to the terms and conditions of insurance contracts; and licensing of agents, brokers, and adjusters; and the regulation of the business generally.

The laws of all the provinces except Quebec concerning contracts of life insurance, the rights and status of beneficiaries, and related matters have been substantially uniform since 1924-1925, when the Uniform Life Insurance Act was enacted in the provinces. Today the Association of Superintendents of Insurance of the Provinces of Canada (corresponding to our National Association of Insurance Commissioners) accepts the maintenance of this Uniform Act (and of similar uniform acts relating to some other classes of insurance) as one of its major responsibilities. Except in special cases where it promotes isolated changes, it successfully discourages amendments between decennial revisions of these uniform acts. There was a major revision of the Life Act in 1935-1936 and another in 1948 which had been postponed by wartime conditions. The Insurance Contract Law of Quebec is based on the French civil law of that province and therefore differs from the law in the other provinces.

## TAXATION

Taxes levied on life-insurance companies directly and on policyholders and beneficiaries with respect to payments made to them by life-insurance companies constitute a complex field of study. In

a number of instances, taxes applicable to the life-insurance business are peculiar to that business; for example, the federal income-tax provisions under which federal income taxes are levied on the companies and state premium taxes, the primary source of state revenue from the companies. In other instances taxes applicable to the life-insurance business are no different from similar taxes applicable to other businesses. In some instances, as in the application of federal income, estate, and gift taxes to payments made by life-insurance companies to policyholders and their beneficiaries, or to policy transfers, the technical character of life insurance has given rise to special sets of rules, even though the taxes are general in nature.

In the following brief discussion, emphasis is placed on those taxes which are peculiar to the life-insurance business and on the special rules applying to life insurance under taxes of a general nature.

The following outline indicates the subjects discussed:

*Federal Taxes Payable by Life-insurance Companies*

Federal income taxation of life insurance companies

Miscellaneous federal taxes

*Taxes Payable by Companies to State and Local Authorities*

Premium taxes

Miscellaneous state and local taxes

*Taxes Payable on Policy Proceeds or on Other Policy Benefits*

Federal income tax—payments after insured's death

Employer-financed death benefits

Delayed payment of life-insurance proceeds

Income-tax treatment of premiums

Federal income tax—payments during insured's lifetime

Federal estate tax

Federal gift tax

*State Taxation of Policyholders and Beneficiaries*

**Taxes Payable by Life-insurance Companies.** *Federal Income Taxation of Life-insurance Companies.* At the outset any consideration of the income taxation of life-insurance companies must include a careful weighing of the effects of this tax on the millions

of policyholders, largely of middle- and lower-income levels, who rely on the protection of this form of savings. The social significance of life insurance is a factor which makes difficult a final decision upon any of the methods of taxation, since, in the end, it is the policyholder who has the burden of the tax. The recognition of this factor has resulted in special provisions not applicable to other corporations for the taxation of life-insurance companies since 1921.

All the internal-revenue acts since 1921 have imposed what was essentially a tax on the income from the investments made by insurance companies, i.e., interest, dividends, rents, etc., less an allowance for the interest required to maintain policy reserves. This deduction has been arrived at in various ways, but always on assumptions based on industry-wide experience, never geared to an individual company's interest requirements. The deduction has always been either a percentage of reserves or a percentage of investment income determined annually by reference to industry-wide experience. Its determination has been the primary concern of those who have had to devise the various tax statutes applicable to life-insurance companies.

Other deductions allowed life-insurance companies have been few, the most significant being the deduction for investment expenses, which is subject to rigid limitations. In addition, under one or more of the revenue acts, companies have been allowed the intercorporate dividend credit or deduction, deduction for interest on indebtedness, and foreign-tax credit, and special provisions are contained in the 1942 act for amortization of premium and accrual of discount on bonds, debentures, etc. The operating expenses, including salaries and the like, are not allowed as deductions except to the extent that they are attributable to investments.

Until 1942 the net taxable investment income of each life-insurance company was generally determined by allowing the following deductions from the gross amount of all interest, dividends, and rents received by it: (1) tax-exempt interest, (2) a fixed per cent of the average amount for the year of all policy reserves required by law (under the 1921 act, 4 per cent of reserves; under the 1932 act,  $3\frac{3}{4}$  per cent), (3) investment expenses (including real-estate

taxes, real-estate expenses, and depreciation), (4) interest paid on indebtedness, and (5) credit for dividends received on stocks of companies subject to federal income tax. The resulting taxable income was taxed at corporate rates.

Commencing in 1942, the required interest deduction was determined by giving 35 per cent effect to the actual rate assumed by the companies collectively in calculating their reserves, and 65 per cent effect to an assumed rate of  $3\frac{1}{4}$  per cent. The percentage so arrived at was applicable to all companies equally in computing the deduction.

No special provisions for the taxation of the accident-and-health-insurance companies existed until 1942. Under the acts of 1921 and 1932, the reserve deduction was a flat percentage of life and noncancelable accident-and-health reserves; the remaining investment income was taxable at corporate rates. Since the reserves attributed to accident-and-health business (other than noncancelable) were not counted for the deduction, the investment income on this business was taxed in full. The 1942 act changed this by imposing an arbitrary presumption of interest income of  $3\frac{1}{4}$  per cent of the unearned premiums and unpaid losses of accident-and-health business. Unearned premiums were considered to be not less than 25 per cent of the net premiums written on these contracts. The amount thus ascertained was taxed at regular corporate rates.

After enactment of the 1942 law, declining interest rates resulted in a gradual reduction in tax and, in 1947, some companies paid no tax. In 1948 the Committee on Ways and Means of the House of Representatives appointed a special subcommittee to recommend a new formula. Unable to complete the assignment, the subcommittee recommended, and Congress passed in 1950, a stopgap bill for the years 1949 and 1950. This bill modified the formula adopted in 1942 to reflect the average rates of interest assumed by the industry in maintaining its policy reserves, thus eliminating the fixed element of  $3\frac{1}{4}$  per cent applied to a portion of the reserves under the 1942 act. Under the 1950 act, the investment income of all companies was averaged. The Secretary of the Treasury then determined each year the average percentage of interest income

earned by all companies that was necessary to maintain reserves. This percentage was applied as a deduction to the interest earnings of the individual company in the following year, and each company was taxed at the going corporate rate on the excess of its interest earnings.

Another interim bill was enacted in 1951. Under this new law, no deduction was allowed for the reserve-interest requirement. Instead, gross investment income, less the other limited deductions previously described, was taxed at a flat rate of  $6\frac{1}{2}$  per cent. This rate produced in 1951 approximately the same revenue as would have been produced by a continuation in that year of the 1950 method.

Since the deductions were quite limited under this act, the flat tax was often termed a tax on gross investment income, as distinguished from net income, to which corporate tax rates normally apply.<sup>22</sup>

The flat tax, first enacted in 1951, was reenacted for the tax years 1952, 1953, and 1954, but always as interim legislation. In 1954 the Committee on Ways and Means of the House of Representatives appointed another special subcommittee to study the taxation of life-insurance companies and make recommendations for a permanent form of tax. This subcommittee made extensive studies during 1954 and 1955 and conducted hearings. The result of their efforts was the Life Insurance Company Tax Act of 1955, devised as a permanent plan for the taxation of life-insurance companies but introduced for a 1-year trial period to permit further consideration during that year.

Under the bill, tax at regular corporate rates was applied to the net investment income after a deduction of  $87\frac{1}{2}$  per cent of the first \$1 million of net investment income allocable to life-insurance reserves and 85 per cent of the balance allocable to such reserves. The new bill expanded the definition of investment income to include, in addition to interest, dividends, and rents, two additional

<sup>22</sup> The difference between the two is that the 1951 act applied a low rate to the gross investment income after limited deductions, while the 1950 act applied the high corporate rates to gross investment income reduced by substantial deductions.

items, royalties and income derived from the entering into or termination of agreements (leases, mortgages, etc.).

In the same bill, income attributable to accident and health insurance (designated as "non-life-insurance business") was taxed in the same manner as income of a mutual casualty company. Under this system, companies having accident-and-health-insurance business pay the higher of (1) a tax at regular corporate rates on their net investment income from accident-and-health business or (2) a tax of 1 per cent on the gross investment income from that business plus premiums (less dividends) on accident-and-health policies.

As introduced, but not as finally enacted, the 1955 tax legislation would have allowed deduction of a portion of the income attributable to pension business underwritten by insurance companies. Under existing law, if a pension or profit-sharing plan is set up under a trust and obtains the approval of the Internal Revenue Service as a qualified plan, the income from its investments is exempt from income tax. If the plan is insured, however, income from the reserves attributable to the pension plan is taxed at the rate applicable to other income of the insurance company. Income from pension-plan reserves would have been exempted (on a graduated basis for the first 3 years) under the original bill introduced in 1955, but the Senate Finance Committee deleted this provision along with a similar provision permitting a special deduction for income arising from annuity, policy-settlement-option, and dividend-deposit reserves pending further study.

During the hearings on the bill the Senate Finance Committee instructed the Treasury to recommend a new formula. Although studies were made by the Treasury during 1956, no recommendations were made, and the 1955 act was extended to cover 1956.

The impermanence of all tax legislation thus far devised for life-insurance companies is notable. The 1950 act was in effect for only 2 tax years. The 6½ per cent formula enacted in 1951 was in effect for 4 years but was reenacted each year on a 1-year basis only. The tax year 1955 was governed by a statute which was not enacted until March, 1956; late in the 1956 session it was extended for another year. During this time the act of 1942 remained a part

of the Internal Revenue Code so that if Congress should fail to act there would still be provision for taxing life-insurance companies.

The unsettled state of life-insurance-company income tax continues. The Treasury Department has not expressed its approval of any of these methods of taxing life-insurance companies and has insisted on seeking new ways of levying the tax. During recent years some officials in the Treasury Department have indicated that they will not be satisfied with anything less than an end to the special taxing provisions for life-insurance companies and the application of the ordinary corporation-tax principles to such companies. The application of these principles to life-insurance companies presents many difficulties mainly because of the long-range nature of the obligations of a life-insurance company. No acceptable solution to achieve this purpose has yet been announced, but the search goes on.

*Miscellaneous Federal Taxes.* Life-insurance companies, like other taxpayers, are subject to the miscellaneous excise taxes imposed by the federal government, such as stamp taxes on the transfer of securities and deeds; the tax on railroad and other transportation; and the excise on telephone, telegraph, cable, and radio communications. Like other employers, life-insurance companies must pay the employment taxes imposed on employers for social-security purposes with respect to home-office employees and full-time life-insurance salesmen.

*Taxes Payable by Companies to States and Local Authorities.*  
*Premium Taxes.* The contribution to the cost of state government currently required from life-insurance companies in the United States through the medium of state premium taxes is inordinately large, amounting to almost \$190 million per year. Originally such taxes were enacted in the early years of life insurance to protect home-state companies from the competition of out-of-state companies and were levied on a punitive basis on premiums payable to companies of other states. Today many states tax home companies and out-of-state companies alike, but a number of states apply premium taxes only to out-of-state companies or, in a few instances, afford their domestic companies a preferential rate of



tax. Only a small portion, estimated some years ago at less than 5 per cent, of premium-tax collections is used for costs of supervision, almost all of the amounts collected going into general revenue. At present and for some time past the most common rate of premium tax has been 2 per cent, the lowest being  $1\frac{3}{4}$  per cent. One state charges a rate of 4 per cent, but allows, as do some other states, a reduced rate to companies that invest a certain percentage of their assets in the state.

Such taxes represent a penalty on savings, similar to taxes that might be levied on savings-bank deposits, and are difficult to justify except as an easy means of collecting substantial revenue. They are paid, like other expenses, indirectly by the policyholder in the form of higher premiums or lower dividends, but policyholders as a group have not made effective protest.

Despite these objections, premium taxes are so well established in state revenue systems and produce such substantial amounts of easily collected revenue that any hope of relief is faint indeed, though efforts to resist proposed rate increases have generally been effective.

The taxation of annuity considerations under premium-tax statutes presents a pattern of ups and downs which contrasts sharply with the relatively undisturbed status of life-insurance premium taxes. Initially, annuity considerations were not generally taxed, but the number of states that included them for taxation, by judicial decision, administrative ruling, or statutory change, gradually increased. A high-water mark was reached in 1950, and since that time a countertrend has developed. A number of states have discontinued taxes on annuity considerations, imposed them at lower rates, or allowed exemptions.

It has always been recognized that an annuity is a form of savings, and the imposition of a premium tax on the sums paid for annuity contracts is much like a tax on deposits as they are made into a savings fund. An additional factor seems to have impressed the state legislatures, not so much from the theoretical or technical point of view as from the practical aspect. Employee-benefit plans that include retirement annuities have almost completely replaced the individual annuity in importance in the field of insurance.

Fringe benefits have become part of every collective-bargaining agreement, and there is every indication that the employee-benefit plan is a continually growing integral part of the economic structure. From the point of view of insurance and taxation, these plans present a problem. They usually take the form of a program that includes retirement benefits, life-insurance protection, and accident-and-sickness coverage. The most expensive feature of the program is retirement benefits. If annuity considerations are taxable under the premium tax, the purchaser's cost is increased. A very active and vigorous competition exists between plans insured with an insurance company and those funded through trustees. The latter, of course, are not taxed and thus have a potential price advantage.

Many tax gatherers and legislators have found that the continuous imposition of a premium tax on the annuity portion of an employee-benefit plan may result in a reduction of revenue to the state over a period of years. Applying the full premium tax to all annuity considerations paid under an employee-benefit program increases the cost of these plans, and the noninsured plans which are tax-free will often be used as a substitute. If this happens, not only the retirement portion but also the life-insurance and accident-and-health coverage of the over-all plan may be replaced by some "self-insured" scheme. Thus the state loses the revenue which it would expect from the retirement annuities as well as the premium tax presently being exacted on the purely insurance parts of the plan. In any event, by statutory provision or otherwise, about half the states now tax annuity considerations, a few taxing them at a lower rate than life-insurance premiums.

*Retaliatory* provisions in nearly all states require a company from a state which has a *higher* premium-tax rate to pay at the rate that is charged by its home state. Provisions such as these result in inequities between policyholders. However, these provisions have served to some extent to restrain state legislatures from sharply increasing premium taxes, since retaliatory provisions of other states would result in the increased rate of a particular state applying throughout the country on business written by home companies of that state. Subsequent to the United States Supreme Court's decision in the South-Eastern Underwriters Association case, doubts

arose about the constitutionality of retaliatory premium-tax provisions. These doubts were ended by the Court's decision upholding the Kansas retaliatory law.<sup>23</sup>

In the determination of taxable premiums, it would seem equitable for dividends paid or credited on participating policies to be deducted. Otherwise stock companies would pay lower taxes than mutual companies. Unfortunately, however, there is no uniformity, a few states allowing no deduction for dividends and one state limiting the deduction to dividends applied toward payment of premium, although about half the states permit all dividends to be deducted.

Canada now levies a 2 per cent premium tax, with allowance of credit for premium tax paid to individual provinces. Commencing in 1941 and for the duration of the war, all provinces ceded to the Canadian federal government their right to levy premium taxes under Dominion-Provincial agreements. The continuance of these agreements has been consented to by all provinces except two, the "nonconsenting" provinces being Quebec and Ontario. These two provinces levy premium taxes at a 2 per cent rate. Dividends are deductible under the federal tax as well as the Ontario and Quebec taxes, while annuity considerations are not taxed.

*Miscellaneous State and Local Taxes.* Miscellaneous taxes and fees paid by life-insurance companies to states include license fees for admission to do business in the state, fees for filing annual statements or other required documents, and annual fees for agents' licenses. Companies also pay fees for the annual certificates of reserve valuation and the cost of the insurance department's triennial examinations, as well as charges for compulsory advertising of their financial condition.

The states that levy income taxes on corporations usually exempt life-insurance companies paying state premium taxes. States not exempting life-insurance companies, however, allow sufficient deductions or admit premium taxes as an offset against income tax, so that little or no income tax is payable. In some states, however, where the rate of premium tax is low for home-state companies, those companies may pay a substantial income tax.

<sup>23</sup> See p. 446.

Like other purchasers of commodities, life-insurance companies are liable in some states for sales taxes on supplies and equipment purchased in the state, or for compensating use taxes for supplies purchased elsewhere and shipped into the state for use there.

Like other employers, life-insurance companies make contributions under state unemployment-compensation acts based on wages paid to employees. Life-insurance soliciting agents remunerated solely by commissions, whose methods and hours of work are not subject to control by the company with which they place the insurance solicited, have generally not been considered "employees" within the scope of unemployment-compensation laws, and contributions have not been made with respect to commissions paid them.

Like other property owners, life-insurance companies pay local property taxes on real estate. In the past, such property has usually comprised the home-office building and property acquired on mortgage foreclosure. Now that the companies, under some state laws, are permitted to purchase real estate as an investment, real-estate taxes will probably become a more significant factor in the total taxes paid.

Cities in a few states levy municipal license taxes, usually consisting of fees for agents' licenses but sometimes directed against the company, in a few instances as a municipal premium tax.

**Taxes Payable on Policy Proceeds or on Other Policy Benefits.** Payments made by life-insurance companies may be subject to federal and, in some instances, state taxes, the type of tax depending on the circumstances of the payment.

*Federal Income Tax—Payments after Insured's Death.* A single sum paid under an insurance contract by reason of the death of the insured has been specifically exempt from the federal income tax virtually from the beginning. This amount is usually exempt from income tax without regard to the ownership of the policy or the source of the premiums. It may be the insured himself who pays, or the employer of the insured, as under a group-life-insurance contract, or some other person. There are, however, three notable exceptions to this rule exempting lump-sum proceeds of life-insurance contracts.

If during the lifetime of the insured the insurance policy is transferred for a valuable consideration, the exemption is limited to the amount paid for the contract plus any premiums paid by the transferee after the transfer was completed. If, however, the contract has a basis for determining gain or loss in whole or in part by reference to the policy in the hands of the original owner, the entire proceeds are tax-exempt. In addition, certain enumerated transfers will not serve to remove the exemption. If the policy is transferred to the insured (in cases in which the policy has been owned by one other than the insured), to a partner of the insured, to a partnership in which the insured is a partner, or to a corporation in which the insured is a shareholder or an officer, the death proceeds are exempt notwithstanding that the transfer was for a valuable consideration. The purpose of the transfer-for-value rule is to prevent the use of life insurance for speculative purposes. The exceptions recognize valid business purposes behind the transfers.

In the case of alimony payments financed under an agreement set up under a divorce decree, if life insurance purchased by the husband is part of a provision for periodic payments of alimony, the wife is required to include the proceeds in her income.

If the life-insurance proceeds are payable under a policy purchased by a qualified employee-pension or profit-sharing trust, and if the life-insurance policy has been purchased in order to finance pension benefits with incidental life-insurance protection, the life-insurance exemption applies only to the risk portion. To the extent of any payments attributable to the reserve which have accumulated under the policy, the beneficiary must include the proceeds in his or her income as though they were received under a pension plan. However, they can nonetheless fall under the exemption of certain limited death payments from qualified pension plans even though they do not constitute life insurance for this purpose.

*Employer-financed Death Benefits.* The life-insurance exemption has been applied in a limited manner to amounts paid to beneficiaries of deceased employees by their employers. Up to \$5,000 of an employer payment may be exempt, provided that the amount is paid solely by reason of death and is not an amount to which the employee would have been entitled had he lived. Even as re-

gards an amount to which the employee had a nonforfeitable right while living, if it is paid under a qualified pension, stock-bonus, profit-sharing, or annuity plan qualified as such by the Commissioner of Internal Revenue, and if the total benefit under the plan is paid in one amount within 1 taxable year after the death of the employee, the exemption will apply. While this rule is not directly applied to life-insurance payments, it is of significance to beneficiaries of life-insurance or annuity contracts because of its application as previously noted to the taxable portion of life-insurance proceeds paid under a qualified pension trust or to the death benefit paid under an annuity plan. The Internal Revenue Code provides that the death payments may be made directly by the employer or on his behalf through the medium of welfare funds, trusts, or pension plans to which the employer has contributed.

*Delayed Payment of Life-insurance Proceeds.* Lump-sum death proceeds under a life-insurance contract are exempt, even though they are not received in a single amount in the year of death of the insured but are set aside in one form or another to produce periodic or other delayed payments. However, the interest on amounts held for delayed payment constitutes taxable income. If the proceeds are to be paid in installments, part of the payment will be exempt as principal which would have been paid in the lump sum and part will be taxable as interest.

In the case of installment payments, but not in the case of payments left at interest, a special \$1,000-per-year exemption against any amounts that might otherwise be taxable is allowed if the payment is made to the spouse of the insured. The distinction between the two forms of delayed payments may be difficult in some cases. The code makes it appear that any type of delayed payment that includes with each payment a portion of the principal amount is an installment payment rather than a payment of interest. However, the Internal Revenue Service has ruled that inclusion of a mere token portion of principal with the interest payment is not sufficient to transfer the payment from interest to installment.

Although the interest element of installment payments of insurance is fully subject to income tax, excepting only the widow's exemption, the code provides that the taxable income will be

spread over the payments throughout the time they are to be received. Without special rules, installments would be wholly tax-free until all tax-free amounts were recovered, and thereafter all amounts received would be fully taxable. Thus the tax would fall heavily upon the income of the later years. The code of 1954 remedies this situation by counting each payment as part return of the principal sum of insurance and part payment of taxable interest, divided proportionately each year. The taxable portion can be determined readily in the case of payments for a definite term based on a stated lump-sum amount. Where the payments may vary in duration or in amount, the regulations of the Treasury Department must be carefully read to find the taxable amount. The computation, difficult or not, is usually necessary only once for each contract or policy.

If the beneficiary elects one of the standard methods of periodic payment of the proceeds, either for life or for a fixed period, the face amount or principal sum of the insurance is paid tax-free to the beneficiary over the entire period of payment in accordance with the rules applicable to payments made during the insured's lifetime.

*Income-tax Treatment of Premiums.* The cost of life insurance is a personal expense which is entitled to no deduction, and under the Internal Revenue Code the individual purchasing an individual policy may take no deduction for his premiums. Under the code he also may not deduct the interest on money borrowed to purchase a single premium policy or annuity contract or to pay at one time a substantial number of future premiums on the policy. In addition, if the employer or some other person obligated to compensate the insured purchases insurance on the life of the insured and enables him to benefit therefrom through right to designate the beneficiary, or even through the donor's naming a natural beneficiary of the donee, then the insured has received income and must report this, even though he did not actually have control of the money which was used to pay the premiums.

If an employer transfers funds to a trust and the trust purchases life insurance on the life of an employee, giving the employee the right to name the beneficiary, the premium is taxable compensation

to the employee. However, if the trust is a qualified pension or profit-sharing trust and holds title to the policies, with right to cash and loan values, the employee need include in his income only that portion of the premium which is required for the current term protection (the 1-year term rate without loading).

Corporations often purchase life insurance for business purposes. Premiums may be deducted, if paid for accepted business purposes, except that the code denies the deduction to a purchaser who is directly or indirectly a beneficiary. However, the mere sense of gratification that comes from knowing that one's employees are provided for and the knowledge that no further moral obligation exists toward the survivors of the employee do not make the employer a beneficiary. In the case of group term insurance, the employee is not taxed on the premiums paid for the group policy, and the employer is allowed a deduction for the amount of the premium, which is looked upon as a part of the cost of doing business. The same rule applies to premiums paid by an employer on behalf of an employee for accident and health insurance, except that either group or individual policies may be purchased. In either case the premiums are deductible to the extent of reasonable compensation and, if the employer has a "plan" of health insurance, do not constitute taxable income to the employee.

*Federal Income Tax—Payments during Insured's Lifetime.* Lifetime payments under life-insurance and annuity contracts include annual dividends to policyholders, lump-sum payments (as upon surrender for cash value or at maturity), or payment of the proceeds in installments for a fixed number of years or as an annuity over the lifetime of the annuitant.

No income tax need be paid with respect to the annual policyholders' dividends, paid under participating contracts. However, these dividends do have an important tax effect, since they serve to reduce the total amount the policyholder may later receive as a tax-free endowment. It is in fact a reduction of the cost of the policy. Interest on dividends left with the company is taxable each year, when credited to the policyholder's account. If proceeds are being received as an annuity, dividends paid are taxable in full.

If the policyholder receives an outright payment of cash in sat-



isfaction of the contract obligation, the proceeds constitute taxable income to the extent that the amount received exceeds all the premiums he has paid for the policy, less dividends. This entire amount of income is includable in the taxable income of the beneficiary in the year it is paid, but the code provides for some relief by permitting the recipient to compute his tax at rates that would have been applicable had the lump-sum amount been paid to him in three equal installments during the year of payment and the two preceding tax years. The result is that a lower tax bracket may be used. The mere right to a lump-sum payment, however, does not result in taxable income at the time the right first arises if the policyholder elects during a 60-day period after maturity to receive the proceeds of the policy as an annuity (either for life or for a period certain). Payments are taxable only when received.

Proceeds to be paid over a fixed number of years are apportioned between taxable income and nontaxable return of cost. The policyholder's cost, or total premiums, less dividends paid by him, is apportioned over the duration of the payments by dividing the total net amount the policyholder paid for the policy by the number of years payments are to be made. The resulting amount is excluded from gross income each year, and the remaining portion is included in taxable income.

In the case of life annuities, the life expectancy found in tables published by the Commissioner of Internal Revenue is used to determine the amount to be excluded annually, which is the net cost of the contract divided by the life expectancy. The taxable portion of the annuity payment is the remainder and need not be recomputed later, even though the taxpayer outlives his life expectancy and receives, tax-free, more than he has paid for the policy. If he dies before the end of the expectancy period, he has paid tax on more than he has received.

Somewhat more complicated rules apply if more than one person is to benefit under the annuity. In the case of the joint-and-last-survivor annuity, the life expectancy is calculated on the basis of both lives. Under a life annuity with a guaranteed minimum amount or minimum number of payments, the value of the guarantee is subtracted from the primary annuitant's cost, resulting in

a higher tax to him. Any amounts received under the guarantee by the survivor are tax-free.

The proceeds of individually purchased accident- and health-insurance policies are completely exempt from income tax by specific statutory provisions, whether as reimbursement for actual medical expenses incurred or only for loss of time. Disability benefits paid under life-insurance policies, though not expressly covered by the statute, have always been regarded as payments of accident or health insurance. Purely medical, surgical, or hospital payments, or benefits for dismemberment paid in a lump sum, are exempt from income tax even though the employer of the injured person paid the premiums. Under plans for employees financed by employers, whether through insurance or otherwise, amounts paid for loss of time are also exempt, up to \$100 a week, after the first week of absence caused by illness, or from the first day of absence if absence is caused by injury or if hospitalization results from the illness. Amounts in excess of this amount are taxable. A plan must be in existence; the employer may not on the spur of the moment undertake to pay these amounts with respect to some employee who is already absent because of sickness or injury. So long as there is a plan, however, its details are largely left to the individual employer.

*Federal Estate Tax.* Life-insurance proceeds are specifically designated in the Internal Revenue Code as includable in the gross estate of a decedent for estate-tax purposes, provided certain conditions of ownership are met. The proceeds are includable for this purpose even though they are not part of the estate for purposes of administration and probate.

The code specifically includes such proceeds in the estate of the deceased person if the proceeds are to be paid directly to the executor or to the estate of the deceased, or if a specific beneficiary is named and the deceased insured had a property interest in the life-insurance policy at the time of his death. This property interest can consist of the insured's right to name the beneficiary, his right to use the cash values during his lifetime, his right to borrow or pledge, or his right to exercise certain options.

If the insured has, during his lifetime, relinquished all these

rights in the policy, or if he never had them, then the mere fact that he is the insured and that he paid the premiums on the policy does not require inclusion of the proceeds in his gross estate. However, he must make certain that his transfer of ownership during his lifetime is complete. If there is a reservation in the transfer under which the policy or the proceeds might return to the donor's estate in the event of failure of certain beneficiaries to be eligible to receive the benefits, and this reservation or reversionary interest has a value of 5 per cent of the amount of the policy, the proceeds are to be included in the gross estate of the insured.

Even though the decedent transferred all incidents of ownership during his lifetime, the proceeds will be included in the gross estate of the donor if the transfer was made in contemplation of death. However, the contemplation-of-death rule is effective only with respect to transfers made within 3 years before death.

Under the law as it existed prior to 1954, ownership of the policy was of no importance. If the deceased insured had paid the premiums, the proceeds were includable in his estate even though he had no property rights in the policy at the time of his death.

Like other property, life insurance is subject to the general property exemption of \$60,000. If the proceeds are left to the surviving spouse, amounts up to one-half the value of the estate may be deducted as marital deduction. Life-insurance proceeds are subject to the marital deduction, provided funds are left outright to the surviving spouse. It is possible, therefore, to have an estate as large as \$120,000 free of federal estate tax.

*Federal Gift Tax.* Life insurance, like other property, may be the subject of a gift, with resulting gift tax on the donor. The gift may be of a contract, including all incidents of ownership, or it may consist of the payment of one or more premiums on a policy owned by another. In either case the gift is subject to tax if it is made for less than an adequate consideration. However, payment of premiums on a policy owned by the payer is not ordinarily a taxable gift to the person named as beneficiary in the policy, unless the beneficiary designation is irrevocable.

The amount of the tax depends on the value of the gift. Gifts of premiums offer no valuation problem, but valuation of life-in-

insurance policies has occasioned some difficulty. Treasury regulations solve the problem by valuing a paid-up policy at its replacement cost. Other policies are valued by actuarial formulas. The Internal Revenue Service very wisely does not leave this computation to the individual taxpayer but requires him to obtain a statement of the value on a prescribed form, from the insurance company.

There is a lifetime gift-tax exemption of \$30,000 per donor, and an annual exemption for gifts other than gifts of future interests of \$3,000 per donee, which operates so that the \$30,000 exemption is not even invaded so long as the donor stays within the \$3,000 exclusion for each donee each year. Both these tax benefits may be at least doubled in the case of married persons by utilization of the Internal Revenue Code provisions dealing with gifts to a spouse or to third persons with both spouses joining in the gift. The code allows either spouse a deduction from taxable gifts of one-half the value of gifts to each other and, if consent is obtained, to double the exemption and exclusion for gifts to third persons. The result is that the exemption may be \$60,000 and the annual exclusion \$6,000. This annual exclusion should always be considered in the establishment of insurance and annuity programs for members of the family.

The annual donee exclusion applies to both payment of premiums and transfer of policies, if they are gifts of present interests. A life-insurance policy is a present interest, since it is a contract having value of itself. Thus, the fact that some of its benefits are deferred does not place it in the category of a future interest, if the policy itself is transferred completely.

*State Taxation of Policyholders and Beneficiaries.* For state inheritance-tax purposes, life-insurance policies made payable to the estate are subject to tax, while policies payable to named beneficiaries are, in the majority of states, exempt from tax. A growing number of states, however, by specific statute or otherwise, tax proceeds to named beneficiaries.

For state income-tax purposes, annuities in some states are subject to tax only when the cost has been recovered tax-free, the pre-1934 federal rule. Other states have by statute adopted the federal 3 per cent rule. One state, Massachusetts, whose income tax

was originally enacted to take the place of a property tax on intangible personalty, taxes all annuity income at the rate of  $1\frac{1}{2}$  per cent, a rate intended to be comparable to the rate of 6 per cent levied on dividend and interest income.

A growing number of states have enacted statutes incorporating, either directly or by reference, the definitions contained in the 1954 Internal Revenue Code, which brings about a method of taxation of life-insurance settlements and annuity payments similar to that of the federal law. With three methods of taxation existing, the life-insurance companies are required to maintain at least three different systems of computing the information required by information-return statutes in the various states. As the states adopt the new federal rule by changes in statute and regulation, an unending series of variations seems possible. Perhaps the complications will serve to dramatize the advisability for the various states and the federal government to consider adopting a reporting system, such as that used in Canada and in two of the states (Massachusetts and Ohio), under which an information return is filed only once and is kept up to date by the company as changes occur. This replaces the usual requirement that such reports be filed each year (even though the amounts involved may be small) and results in considerable savings not only to the makers of information returns but to the taxing bodies as well.

Life-insurance death proceeds paid in one sum are generally exempted from state income taxes, as are amounts received by the insured as a return of premiums paid by him, either during the term or at maturity or surrender of the contract. Life-insurance death proceeds payable in installments are exempt from tax in most states, while interest payments are generally taxable.

## REVIEW QUESTIONS

1. State the principal reasons why the life-insurance business should be subject to governmental supervision.

2. State *briefly* the general effect on the question of federal versus state control of each of the following: (a) the decision in *Paul v. Virginia*; (b) the decision in *South-Eastern Underwriters case*; (c) the

McCarran Act; (*d*) the decision in the American Hospital and Life Insurance Company case.

3. Outline the historical development of governmental regulation in (*a*) the United States; (*b*) Canada.

4. What are the principal functions of the state insurance departments?

5. What are some of the achievements of the N.A.I.C. in promoting uniformity and efficiency of state regulation?

6. Specify the different categories of taxes paid by life-insurance companies to the federal government and to the states.

7. Describe the present general basis for computing the federal income tax payable by a life-insurance company. Would it be suitable to apply the methods applicable to other types of corporations?

8. Discuss the justice or injustice of state taxes on life-insurance premiums. What is meant by a retaliatory tax?

9. State the liability for federal income tax of the recipient of (*a*) policy proceeds paid at death; (*b*) matured endowment; (*c*) cash-surrender value; (*d*) dividends drawn in cash; (*e*) disability benefits.

10. Give some instances where premiums paid for life insurance are deductible from the payer's income in determining federal income tax.

11. Explain briefly the liability of policy proceeds at death to the federal estate tax.

12. When the proceeds of a policy are paid to the beneficiary under one of the optional modes of settlement, to what extent are the payments subject to federal income tax?

## Legal Aspects of Life Insurance

The application of the general rules of law to life-insurance contracts, and to life insurance generally, involves many doubtful and difficult questions. It has already been pointed out in Chapter 19 that, because of its technical nature, size, and importance, life insurance has been the subject of a vast amount of special legislation by the states. These special laws modify, in many instances, the general rules of law, and it is therefore not always possible to arrive at a solution of questions affecting life-insurance policies merely from a knowledge of general legal principles. In this chapter will be outlined the application to life insurance of some of the most important of these principles as modified by special legislation. In attempting to apply general rules to particular cases the greatest care must be exercised to ensure that all the circumstances of the case have been taken into account. One or two broad principles may first be mentioned before the general rules of law are discussed in their application to the contract of life insurance.

At one time life insurance was considered to be immoral, as "gambling in human life." This idea arose because policies were taken where no insurable interest existed and where the insurance was effected solely for speculative purposes. Now, however, life insurance, is chiefly used and properly regarded as an economic necessity and when properly understood cannot be considered as a "wager" even though a large financial gain may result from the early death of the insured. A wagering contract is one where profit is sought to be made through chance, while the true object of life insurance is rather the opposite, the avoidance of loss arising

through chance. A life-insurance policy, therefore, unless in the absence of a legitimate insurable interest, is not a wagering contract, which would be unenforceable on grounds of public policy.

Again, a life-insurance policy is not a contract of indemnity as are most other forms of insurance. A contract of indemnity is entered into for the sole purpose of making good a loss incurred. The value of a life, however, is incapable of estimation and, except in a limited sense, cannot be "made good" by insurance. An important distinction which thus arises between life insurance and other forms of insurance is that the principle of "subrogation," under which the insurer (i.e., the company) takes the right of recovery against a third party causing the loss, has no application to life insurance.

Another broad principle which must be borne in mind in connection with all legal questions affecting life insurance is that, in theory at least, a high degree of good faith is required because of the special nature of the contract. While this is true of contracts generally, it has a special bearing on life-insurance contracts because of the relations between the parties and the importance of a full and complete understanding between them. Thus, the company must rely, in an unusual degree, on the truth of the statements made by an applicant for insurance, many of which it has no means of verifying, while the latter, because of his lack of technical knowledge, depends on the good faith of the company to ensure that all the terms of the contract are fair and equitable.

Two general branches of law are of particular importance in relation to life insurance—the law of contract and the law of agency.

**Application of the General Rules of the Law of Contract.** A life-insurance policy is a contract between two parties, the company and the insured, which calls for the performance of certain acts by each of the parties and which, in the absence of special legislation, will be interpreted and governed by the ordinary rules of the law of contracts. The legal requisites of a valid contract, briefly stated, are as follows:



(1) There must be an agreement between the parties based upon an *offer* made by one party and an *acceptance* of that offer *in the same terms* by the other party.

(2) The contract must be in legal *form*.

(3) It must be for a legal *purpose*.

(4) To be legally enforceable it must be based upon a *valuable consideration*.

(5) The *parties* to it must be *legally capable* of contracting.

(6) There must be no *misrepresentation* of a material fact and no intentional misstatement of an immaterial fact on which the parties rely.

The first four of these requirements do not involve any points of special importance in connection with life-insurance policies. The application for insurance is the offer of the person to be insured. This offer is accepted or rejected by the insurance company, and, if accepted, the precise terms of the agreement between the parties are set forth in the policy. If acceptance is made in terms different from those contained in the application, as, for example, where a different kind of policy is offered from that applied for, a revision of the terms of the application is necessary unless this possibility has already been anticipated and provided for in the original application.

The policy is always in writing properly executed, but in the absence of special legislation a valid contract of life insurance could be made orally. The laws of the several states, however, which require policy forms to be approved by the state authorities and the inclusion of specified standard provisions and tables of cash-surrender values, and so forth, necessitate a written policy. In any case, the nature of the contract is such that an oral contract would, in many ways, be quite unsuitable.

The purpose of a life-insurance policy is legal if an insurable interest exists (to which requirement further reference is made below), and there is always a valuable consideration consisting of the premiums paid and to be paid for the insurance.

*Legal Capability of Parties.* There are two parties to the contract, the insurer (the company) and the insured. The latter is

usually, but not necessarily, the person whose life is insured. Where one person effects a policy on the life of another, the former is sometimes referred to as the *assured*, and he is then the second party to the contract. No third party may take any rights under the contract except by obtaining such rights in a legal manner, as by assignment. Thus, no right to receive any part of the proceeds of the policy is gained by a person who voluntarily pays a premium. Nor is a person whose life is insured by another a party to the contract.

The relation between the insurer and the insured is that of debtor and creditor. The insurer is not in any sense a trustee in respect to premiums paid by the insured and need not, therefore, render any accounting thereof. The duty of the insurer is merely to carry out its contract. This principle has important applications in practice. For example, in the case of participating policies the company is under no obligation to prove to a policyholder by an accounting that the dividends have been properly computed. In such matters the directors have wide discretion, subject, of course, to the laws of the state and the regulations of the state authorities.

*Competency of the Insurer.* In the absence of special legislation an individual is capable of being an insurer. State laws, however, require the formation of a corporation and, by the various regulations imposed, render it illegal for an individual to grant life-insurance policies. While in the early days of life insurance it was customary for individuals to engage in the business of insuring lives, such an arrangement is not suitable. An individual has no permanency, nor could a contract be made with an individual with the security of fulfillment which is furnished by a corporation. Moreover, insurance other than for short periods would introduce many practical difficulties. Policies issued by individual insurers were invariably short-term contracts providing insurance usually for not more than 1 year, and even these were generally guaranteed by a number of individual insurers.

The only question which can arise with regard to the legal competency of a corporation (i.e., a life-insurance company) is whether the corporation has complied with all the laws of the states within which it does business. Usually no doubt exists about

such compliance although, in states requiring filing and approval of policy forms and other blanks, questions of legality may occasionally arise.

Failure of a company to comply with such requirements (as by inadvertence) would, however, in all probability not affect the legal relations between policyholders and the company. For example, a contract illegally issued, as in the case of failure to file the policy form, would remain binding between the company and the insured, the company rendering itself liable to whatever penalty was imposed by the statute for noncompliance.

*Competency of the Insured.* The question of the legal capability of the person to whom the policy is granted is of greater practical importance. Not only must the insured (or assured) be legally capable of entering into a contract, but there must be an insurable interest in the life of the person whose life is insured. Only two classes of incompetent persons need be discussed, alien enemies and "infants."

*Aliens.* A contract made with an alien friend is valid to the same extent as a contract made with a citizen; a contract made with an alien enemy is void. The only difficulty arises where a contract has been made with an alien friend who subsequently becomes an alien enemy. In that event it may be impossible for the holder of the policy or for the company to carry out its terms, and questions may arise about the status of the policy. The rulings of the courts in such cases have been diverse. The United States Supreme Court has held that when the policyholder becomes an alien enemy the contract is terminated, and the reserve at the date of failure to comply with the terms of the policy is payable to the owner of the policy as of that date. However, this rule has not been followed by all states. Under the "Connecticut rule," for example, the nonforfeiture provisions of the policy apply as in the case of an ordinary lapse, while the "New York rule" merely suspends the policy and permits subsequent reinstatement. Both these state rules are open to criticism. The former works an obvious hardship on the insured. The latter rule may place the company at a disadvantage since it permits a selection against the company by those who revive their policies. When an alien enemy is able to

continue payment of premiums, as, for example, where the company maintains a branch office in the foreign country, these questions do not generally arise.

*Infants.* An infant, i.e., a person under the age of twenty-one years (or, in some states, a female under the age of eighteen years), is not incapable of contracting; but such contracts are not enforceable, and an infant may in general repudiate contracts made in infancy, with the exception of contracts for necessities. Under the general rule of law, therefore, while there is nothing *illegal* in the issue of a life-insurance policy to a person not of legal age, such a policy could later be repudiated by the insured, and the company might be compelled to refund the premiums paid although insurance protection had been furnished in the meantime. Some courts would, no doubt, allow the insured to recover only the cash value, if any, or the reserve, but this would depend on the circumstances of the case. Because of the need for, and the benefits of, life insurance, some states, by special legislation, have rendered infants of not less than a specified age competent to effect a valid contract of life insurance, and for that special purpose such infants are on the same footing as other persons. For example, in the state of New York a person not less than fifteen years of age (nearest birthday) may legally effect a valid and enforceable life-insurance contract. Policies issued on the applications of children below that age (as is commonly done), although not illegal, are not enforceable by the company.

*Insurable Interest.* In considering the question of what constitutes a sufficient insurable interest two classes of policies must be considered: (1) policies on the life of the person applying for the insurance and (2) policies on the lives of third parties.

It is recognized that every person has an insurable interest of unlimited extent in his own life. This does not mean, of course, that anyone can secure unlimited insurance on his own life, since no company will issue a larger amount than seems suitable to the circumstances and means of the applicant. Sometimes a person takes a policy on his own life and immediately assigns it to another. A policy of life insurance is personal property and as such is freely assignable. If a policy is validly effected in good faith and not as an

evasion of the rule requiring an insurable interest and is subsequently assigned, there is nothing illegal in such a transaction. On the other hand, if the assignment can be proved to be merely a subterfuge to evade the rule of law requiring an insurable interest, such a policy would be void *ab initio*. The difficulty under practical conditions would be to prove that the policy was not effected in good faith. If there is any indication at the time of application that an assignment is contemplated, the insurance company would usually require evidence of the insurable interest of the prospective assignee where no such interest was apparent. A similar situation arises where the applicant names a beneficiary having no relationship to the insured that would justify his nomination as beneficiary and where the beneficiary is to be given all rights in the policy. In such circumstances the company would normally require an explanation and evidence of insurable interest (except in Texas there is no legal requirement that the beneficiary have an insurable interest).

A policy on the life of the person applying for the insurance involves, as a rule, no question of insurable interest. It is when the policy is on the life of a third party that such questions usually arise. In such cases it may be laid down as a general rule that there is an insurable interest *when the person effecting the insurance has a reasonable expectation of financial benefit from the continuance of the life of the person to be insured or of financial loss from its cessation*. The interest need not be capable of exact pecuniary estimation, nor need it amount to a legal right; but it must be based on value and not on mere sentimental considerations. An important point is that, contrary to the rule which applies to other forms of insurance, an insurable interest sufficient to be the basis of a life policy need exist only at the time when the policy is effected and need not necessarily still continue at the time a claim is made. One reason for this rule is that to require termination of the policy upon cessation of the insurable interest might involve financial loss, particularly where the policy had been only a short time in force. In most other kinds of insurance little loss is involved by a cancellation of the policy, the cost being on a year-to-year basis and an adjustment of premiums being made for any un-

expired period. Thus, a creditor who has insured the life of a debtor to secure payment of his debt and who has paid the premiums on the policy may continue the policy in force after the debt has been paid. In such circumstances, however, the debtor usually pays the premiums and takes over the policy on repayment of the debt.

An insurable interest may arise from relationship or as the result of commercial transactions. Relationship does not, in itself, constitute an insurable interest. Thus, a sister has no insurable interest in the life of her brother merely because of relationship; but if her brother supports her, she has an insurable interest in his life although she is not legally entitled to such support. Where relationship exists, an expectation of financial benefit, however remote, is usually sufficient to establish an interest. Thus, a father may insure the life of his minor child because of the legal right to earnings during minority. A husband has an insurable interest in the life of his wife because of the value of her services, and a wife has an insurable interest in the life of her husband because of his support, whether he actually supports her or not. In this case the support is a legal right, but it is immaterial whether or not it is a legal right.

The question of insurable interest in the case of policies taken for business or for other similar reasons introduces other considerations. It has been seen that, where the interest arises from relationship, the amount of the policy is usually limited only by the circumstances of the applicant and the willingness of the insurance company to issue it. Where the interest arises from other considerations, the amount of insurance must correspond with reasonable accuracy to the extent of risk involved. An insurable interest in connection with commercial transactions may arise from such relations as those between creditor and debtor, between partners, between employer and contractor, or between surety and principal. A common case is where a firm or corporation desires to insure the life of a valuable officer or employee. Many corporations carry insurance on the life of the president of the corporation or on some other person whose death might affect the profits of the business. The amount of the insurable interest in such cases is largely a

matter of judgment, but where there is obviously a legitimate reason for insurance a liberal view will usually be taken on the question of amount.

Where insurance is taken by a creditor on the life of a debtor upon which the debtor pays the premiums, the creditor is entitled, in the event of the death of the debtor, only to the amount of his debt, together with interest and expenses; similarly, if the debtor repays the debt, he would, as a rule, be entitled to an assignment of the policy. But where the premiums were paid by the creditor out of his own funds he would generally be entitled to the entire proceeds of the policy, provided that they were not unreasonably in excess of the amount of the debt with interest plus the premiums that had been paid.

*Misrepresentation and Misstatements* The consent of the parties to a contract assumes the truth of the statements on which they rely in entering into the contract. Generally the contract is voidable if the insured in the application unintentionally makes a material misrepresentation or intentionally makes any misstatement. The contract is void in event of fraud, mistake, or absence of good faith, except where the contrary is provided by special statutes or by the terms of the contract itself as, for example, by an incontestable clause. Where there has been fraud, mistake, or absence of good faith, there has been no real consent of both parties. Most life-insurance policies are, by their terms, incontestable after the lapse of a stated period from the date of issue, except for non-payment of premium and sometimes for other specified reasons. During this period there is an opportunity to rectify any mistake. The United States courts have generally held that after the expiry of the period of contestability the policy cannot be rescinded by the insurer because of fraud in obtaining it.<sup>1</sup> Such a rule seems contrary to the most elementary principles of justice and operates to protect dishonest persons at the expense of others. However, the rule is founded on the principle of public policy that it is well that beneficiaries, after the expiration of a specified time, may rest secure in the knowledge that the validity of the life insurance on which they rely is no longer subject to question, even though the

<sup>1</sup> This is not true of policies issued in Canada.

operation of the incontestability clause may in some instances protect dishonesty. The general principle invalidating contracts in the absence of an equality of knowledge is therefore applicable only to a limited extent in the case of life-insurance contracts since any attempt to avoid the contract for such reasons must be made within the period allowed.

*Concealment.* Two special aspects of the general requirement of equality of knowledge are of particular interest in relation to life insurance. These relate to *concealments* and *misrepresentations*. Concealment of material facts may or may not be fraudulent, since doubt may exist about the materiality of the matters concealed. It is the duty of the applicant to disclose, in the first place, all facts about which inquiry is specifically made in the application blank or by the medical examiner. The fact that inquiry is made about a matter raises the presumption of its materiality. The usual cases that arise in this connection are those where an answer is incomplete or where an answer is omitted. An incomplete answer undoubtedly amounts to concealment. For example, if the applicant is asked, "What diseases have you had in the past 5 years?" and in the reply states that he has had influenza, making no mention of the fact that he has also had typhoid fever, he is concealing a material fact, which will render the policy voidable within the period of contestability. Where, however, an answer is omitted, it is the duty of the company to require an answer, and if it issues the policy without doing so it will be considered to have waived the answer to the question. The applicant need not disclose facts not inquired about that are known or that should be known to the company. In applying this rule it is not permissible to assume that the company has made inferences which would be necessary to arrive at the information in question, nor is it presumed that information published in newspapers is necessarily known to the company. Matters of public knowledge, however, such as that a state of war exists in a country to which the applicant is going, would be presumed to be known to the company.

It is to be noted that, in general, the facts concealed must be material in order to have any effect on the validity of the contract. The general criterion of materiality is the question: "Would



knowledge of the facts or information concealed have affected the action of the company in accepting or rejecting the risk?" If such knowledge might have caused the company to refuse to issue a policy or to offer special terms, its materiality is established, and the company then would have the right to rescind the policy unless the period of contestability had expired.

*Warranties and Representations.* In addition to the question of concealment, it is important to note the general interpretation to be placed upon the statements of the applicant. Under the laws of most states all statements made by the applicant, whether in the application blank or to the medical examiner, are considered, in the absence of fraud, to be representations and not warranties. In the absence of such special laws it might be agreed that the statements of the applicant would be considered warranties. This, as has already been explained, was formerly the usual practice. Such a provision would, however, give an undue advantage to the company because of the absence of technical knowledge on the part of most persons insured. A warranty must be literally true, and a breach of warranty would be sufficient to render the policy void whether the matter warranted were material or not and whether or not it had in any way contributed to the loss. A representation need be only substantially true. It is evident that many of the answers required in an application for life insurance cannot be answered with literal accuracy. For example, the questions: "Are you free from disease?" or "Have you suffered injury of any organ?" can be answered only with approximate truth. For the company successfully to deny liability under a policy because of misrepresentation, the matter complained of must be material, and the criterion of materiality is the same as that stated above with regard to concealments.

In Missouri the law provides that a misrepresentation not only must be material but must have related to a matter which contributed to the loss. Thus, if an applicant states that he has been in a hospital, the fact being that he has been in a lunatic asylum, and if, within the period of contestability, he dies as the result of a railroad accident, the company would be liable under the Missouri law, since the matter misrepresented was not a factor

contributing to the death of the insured. This is undoubtedly a bad rule, since, if the company had known of the matter which was misrepresented, it would probably not have accepted the application and would never have been liable on the risk. In Massachusetts, statements of the insured that are claimed to be misrepresentations either must be proved to have been fraudulent or must relate to matters which have contributed to the loss. The virtual impossibility of *proving* fraudulent intent renders this rule practically equivalent to the Missouri Law. In Alabama the statute is similar, requiring proof that the alleged misrepresentation was made with intent to deceive or that the matter misrepresented increased the risk. In accordance with the statutes of other states the fact that any circumstances which would have influenced the decision of the company in accepting or rejecting the application have either been concealed or misrepresented is sufficient (apart from the operation of an incontestable clause) to void the policy, even though such circumstances have not contributed to the death of the insured. This is the only fair rule.

**Application of the General Rules of the Law of Agency.** The rules of agency law are of considerable importance in life insurance, since the business of life-insurance companies is transacted entirely through the medium of *agents*. An agent, in the legal sense, is a person who acts for another, and, in that sense, officers of the company, soliciting agents, medical examiners, branch managers, and so forth, are all agents of the company.

An agent, in the legal sense, may be either a *general agent*, having power to do all that his principal could do if he were present, or a *special agent*, having power to perform certain specified acts only, such as to solicit applications for insurance or to make medical examinations on behalf of the company. The president and other executive officers may be considered to be general agents of the company in the legal sense since they act and have authority in all matters on behalf of the stockholders of a stock company or of the policyholders of a mutual company. The "general agents" in charge of a company's business in particular localities are not general agents in the legal sense, since they have not the right to perform all acts that an executive officer of the

company might perform but only the particular duties connected with their department of the business.

There are four general rules of the law of agency, the particular application of which to life insurance should be noted.

*Presumption of Agency.* There is no *presumption* that one person acts for another. Thus, if a person represents himself to be the agent of an insurance company and receives the initial premium with which he later absconds, the company is not liable if it has done nothing to raise the presumption that an agency existed. If, however, the company had supplied the supposed agent with receipt blanks, rate books, application blanks, etc., there would probably be a presumption that an agency existed, and the company would in that case be liable to make good the loss.

*Apparent Powers of Agents.* The power of a special agent is limited, as already noted, to the acts which he is appointed to perform. But the company cannot deny that a special agent has powers with which he is apparently invested. For example, where an agent has habitually granted extensions of time in payment of premiums and the company has not in the past questioned his power to do so, the effect will be that, until persons dealing with him are notified of the limitations on his powers, it cannot deny that the agent has such powers even though, in fact, he does not have them. Such action in regard to a policy on the life of one person would not, however, create any assumption about the agent's power in regard to similar action on a policy on the life of another person. Again, the president or other executive officer of an insurance company must be considered to have, and generally does have, the power to do all things necessary to carrying out the contracts of the company. Any restrictions on the powers of executive officers contained in the bylaws of the company would be of no effect in so far as responsibility for actions in such matters was concerned, unless such restrictions had been duly communicated to all concerned. Any restrictions contained in the company's charter would, however, be effective, since the charter, unlike the bylaws, is considered to be public knowledge.

*Limitation of Powers of Agents.* Limitations on the powers of an agent will be effective where these limitations have been prop-

erly communicated and provided that the limitations are legal. All companies communicate to their policyholders by means of a clause in the application blank or in the policy, or in both, the customary limitations on the powers of soliciting agents and other representatives of the company with whom the policyholder may come in contact. Such a clause usually states that only certain specified officers of the company (executive officers) have the power to extend the time for payment of a premium or otherwise to modify the contract in any respect.

*Responsibility for Acts of Agents.* Limitations on the powers of agents, even if communicated, must however, be proper limitations; i.e., they must conform to the general rules of law. The company cannot merely by giving notice disclaim responsibility for the ordinary and necessary acts of its agents done in the course of their agency. The disadvantages of transacting business through the medium of agents cannot be avoided. The chief of these disadvantages are (1) responsibility for any wrong committed by the agent in the course of his agency and (2) the legal presumption that the knowledge of the agent, even though not communicated, is the knowledge of the company. The company is responsible, for example, for any libel committed by an agent in the course of business. Again, where the agent has obtained an application for insurance by making a fraudulent promise or a misrepresentation of the benefits to be received under the policy, the company may not retain the premium if the applicant, within a reasonable time, returns the policy and demands his premiums back. The applicant may not, however, in such circumstances, demand that the company fulfill the promise of the agent, since that might be impossible without injustice to other policyholders. If the companies were bound by all promises made by agents, it would be practically impossible to carry out the business of life insurance by means of agents, since a dishonest agent could involve a company in serious loss.

The fact that the knowledge of the agent is presumed to be the knowledge of his principal is of particular importance to life-insurance companies. The soliciting agent is the (legal) agent not of the applicant but of the company. If he knows anything regard-

ing the applicant which might have a bearing on the latter's insurability it is his duty to communicate it to the company, and if he does not do so the company is nevertheless presumed to have such knowledge. The applicant is entitled to assume that the agent *has* communicated it. Facts which come to the attention of the medical examiner in the course of his examination and which he does not communicate to the company are likewise presumed to be known to the company.

**Rights of the Beneficiary.** The beneficiary is the person designated in the policy to receive the proceeds of the insurance. The rights of the beneficiary in connection with the ownership of the policy or in any negotiations concerning it depend on the terms of the contract. Where the policy is made payable to the estate of the insured, or to the insured himself at the maturity of an endowment policy, or where a policy is maintained by one person on the life of another and is made payable to the former, or where the beneficiary is a person designated by the insured for a valuable consideration, as in the case of a creditor policy, very few difficulties can arise in determining the rights of the beneficiary, who, in such cases, is usually the absolute owner of the policy. In the great majority of policies, however, the beneficiary is a person designated by the bounty of the insured and is usually someone who is dependent upon him, such as his wife or child. Where the policy is made payable to such a beneficiary without any limitations or conditions, the ownership of the policy is in the beneficiary, who is said to have an "absolute vested interest." Under these circumstances all negotiations concerning the policy may be effected by the beneficiary alone without the consent of the insured; the beneficiary will lose the benefits secured by the policy only if it is not maintained in force by payment of premiums. In such a case, if the beneficiary were to die before the insured, the cash value of the policy at that time, if it had a cash value, would be a part of the estate of the beneficiary, and, similarly, in event of his bankruptcy the value of the policy would be available for payment of his debts. Such an absolute designation is not usual. Usually it is provided that, in event of the death of the beneficiary occurring prior to the death of the insured, the rights of the bene-

ficiary shall pass to the insured. Under such circumstances the beneficiary's interest is conditional only, as he is liable to lose it by prior death. The insured has, therefore, an interest sufficient to necessitate his concurrence in all negotiations concerning the policy, although in the meantime the rights of the beneficiary are "vested."

Whether the interest of the beneficiary is vested absolutely or vested conditionally or is merely contingent, the beneficiary has an interest such that his consent is necessary in all negotiations involving the policy unless the policy specifically provides otherwise. For example, if a policy is made payable to the insured's wife, if living, or, if the wife is not living, to his children, no transactions involving the policy may be carried on without the consent of the wife and the children or of their legal guardians if they are under age. Such provisions may lead to delay and expense in connection with such matters as surrender of the policy for cash or an application for a policy loan or when the policy becomes payable by the death of the insured. In order to avoid such complications it is now more usual for the insured to reserve to himself the right at any time to change the beneficiary and the right to take the cash or other nonforfeiture value of the policy or to receive a loan upon it from the company without the consent of the beneficiary. Where this has been done, the beneficiary has no legal rights, but a mere expectation of benefit to be received in case the insured shall die without having changed the beneficiary and without having otherwise disposed of the policy. Ownership of the policy remains entirely with the insured, and in the event of his bankruptcy the value of the policy may be taken in payment of his debts (unless, as in New York, the law provides otherwise) provided that it has a cash value by its terms. If the policy has no provision for a cash value, it cannot be taken by the creditors in event of bankruptcy.

In nominating the beneficiary, either the insured may choose to simplify all negotiations concerning the policy by retaining full control of it during his lifetime, in which case the property in the policy remains in himself and the policy becomes available for his debts in event of bankruptcy (except as stated below), or he may choose to nominate a beneficiary or beneficiaries without reserving to himself the control of the policy, in which case the policy is not

available for his debts. In any particular case the answer to the question whether the insured or the beneficiary alone may deal with the policy or whether the consent of both the insured and the beneficiary is necessary depends entirely on the terms of the policy.

There are two conditions under which the creditors of the insured may attach a policy, even where it is payable to a beneficiary and where the insured has not reserved to himself any rights. These are (1) where the premiums have been paid out of embezzled funds and (2) where the premiums have been paid after insolvency and in fraud of creditors. In the latter case it is necessary that fraud be proved, which would usually be difficult. A reasonable amount of insurance for the circumstances of the insured will not generally be considered fraudulent.

The majority of the states now have statutes that protect policies payable to third-party beneficiaries from the claims of creditors of the insured, although in some states the exemption is restricted to policies payable to specified members of the insured's family, or to his dependents. There are eight states whose statutes still limit either the amount of the insurance exempted or restrict the exemption to insurance purchased by premiums not exceeding a specified sum annually.

In the state of New York the law is very liberal. Under Section 166 of the New York Insurance Law the creditors of the insured have (in the absence of fraud or intention to hinder or delay creditors) no right either to the proceeds at death or to the cash value of a policy of any amount provided that the policy is payable to a named beneficiary, irrespective of whether the insured had retained the right to change the beneficiary, even where the insured himself is named as contingent beneficiary. Thus the insured may retain complete control over his life insurance while his creditors have no rights against it. No such possibility exists in regard to any other type of property.

Where a living policyholder elects that the proceeds of a policy be paid upon his death to a beneficiary under one of the settlement options, the laws of many states permit the inclusion in the supplementary contract of a provision (known as a "spendthrift clause")

that the payee shall not have the right to commute, encumber, alienate, or assign the benefits under the contract. Such a clause should, however, be effective even in states not having such a statute, on the basis of contract.

**Assignments.** Most life-insurance policies contain a provision to the effect that no assignment shall be binding upon the company unless the original assignment or a copy thereof is filed at the home office of the company and that the company assumes no responsibility for the validity of any assignment. Such provisions have, of course, no effect on the validity of assignments or on the legal equities between the insured and the assignee. By complying with the terms of the policy, however, the assignee becomes a party to the contract and may take legal action thereon if necessary. If he does not comply with the terms of the contract, he would, nevertheless, have an equitable right against the insured which could be enforced through the proper channels. While the companies are within their rights in requiring that assignments shall be notified in a particular manner, no company would ignore notice received in some other and less formal manner. Such notices would be duly recorded and would be considered when the time came to make payment under the policy.

An assignment of an insurance policy may be voluntary, conditional, or absolute. A voluntary assignment is one which is made without a valuable consideration. Such an assignment is effective, provided that it is made in good faith and not as an evasion of the requirement of an insurable interest and also provided that it is not made in fraud of creditors. A conditional assignment is the usual form of commercial security and is the form generally used for securing a debt. Evidence that the debt has been paid will suffice to cancel a conditional assignment even though the assignment may be absolute in form. An absolute assignment is equivalent to the sale of the policy. The rights of the insured in the policy can be reestablished only by a subsequent absolute assignment, although, as has just been seen, a conditional assignment may sometimes be absolute in form. In deciding the effect of assignments made for the purpose of securing indebtedness all the circumstances of the case must be taken into account.



**Delivery of the Policy.** The question sometimes arises under a life policy: "When does the insurance begin?" This is a matter which depends largely upon the terms of the policy, the usual provision being that the policy goes into force when it has been delivered to the insured while he is in good health, and provided that the first premium has been paid. While this may appear clear enough, questions sometimes arise about what constitutes a *delivery* of the policy. Delivery is largely a question of the intention of the parties. Actual possession of the policy by the insured is not essential if all *conditions precedent* have been satisfied, i.e., if the first premium has been paid, the insured being then in good health, and if the company has expressed the intention to be bound, either by delivering the policy to an agent to be handed to the insured without any restrictions or in some other way. Such a delivery without possession of the policy occurs when the insured, as is frequently the case, has paid the first premium at the time of making the application and has received a *conditional receipt* or *binding receipt*. Such a receipt may provide *either* that the insurance will not take effect until the application has been accepted by the company, *or* (more usually) that the insurance takes effect immediately provided the applicant is later found to be an insurable risk at the time of application. In the former case the company is not actually liable under the policy if death occurs before the application has been acted upon, but in that event (which occurs not infrequently) the company would, as a rule, pay the claim if the facts indicated that the application normally would have been accepted under the company's rules and that no misrepresentation or fraud was involved. One or two companies use a form of binding receipt that places the company unconditionally on the risk from the date of application, the insurance remaining in effect unless and until the application is declined. Under this latter form of receipt the applicant is insured for a brief period even where he is definitely an uninsurable risk.

Actual possession of the policy is not necessarily conclusive proof that it has been delivered. Sometimes the policy is handed to the applicant for his inspection, in which case he is usually required to sign a receipt which states that the policy is merely in his hands

for examination and approval. As the policy generally states on its face that the first premium has been paid, no separate receipt being given for the first premium even in the case of a single premium, it is necessary for the company to secure in such circumstances an acknowledgment that formal delivery has not taken place.<sup>2</sup> If it did not do so, it is probable that, if the applicant should die while in possession of the policy and if a claim should be made under it, the company would be held liable because of the acknowledgment in the policy of the receipt of the first premium. The company would then merely have the right to recover the amount of the premium from the insured's estate.

In most cases where the first premium has not been paid in exchange for a conditional receipt, the agent is instructed not to deliver the policy unless the applicant continues to be in good health. The policy is therefore not released by the company for delivery without restrictions, and if the policy were obtained by the applicant or by his representative by a misrepresentation of the state of health of the applicant, there would be no real delivery and the policy would not be valid. Cases have, in fact, occurred where such a "delivery" was obtained after the death of the applicant.

**Life-insurance Companies and Litigation.** All life-insurance companies are frequently involved in litigation. Life insurance offers peculiar temptations to the unscrupulous, and every conceivable form of fraud has, at one time or another, been attempted against the companies. In order to protect the interests of the large body of honest policyholders it is absolutely essential to scrutinize all claims with care, particularly where any circumstances raise suspicion of unfair dealing.

It is somewhat unfortunate that the courts, or at least the lower courts, and juries seem sometimes to favor claimants over the companies. The large number of decisions against the companies that are reversed on appeal to higher courts indicates that they cannot always rely on an entirely unbiased judgment in the first instance. With rare exceptions, life-insurance companies do not

<sup>2</sup> Some companies use a special form of receipt for single premiums, the policy itself not acknowledging the receipt of the premium.

enter into litigation without due cause. To do so would be bad business. At the same time, the rights of all the policyholders must be protected, and where a company believes a claim to be fraudulent or improper it is its duty to resist payment.

### REVIEW QUESTIONS

1. "A life-insurance policy is not a contract of indemnity." Explain and discuss this statement.

2. State six requisite features of a legally valid and enforceable contract.

3. Under what circumstances does one person have the right to effect insurance on the life of another? Consider separately the cases where (a) the persons are related; (b) they are not related.

4. What is (a) a warranty? (b) a representation? What is the effect on the contract if the applicant misrepresents any of the facts inquired about in the application?

5. In the legal sense, what are the two classes of "agents"? Illustrate each in the case of a life-insurance company.

6. Explain and illustrate the rule that "the knowledge of the agent is the knowledge of the company."

7. Why do most policies now issued provide that the insured, rather than the beneficiary, shall have the various "rights" mentioned in the policy? What are some of these rights?

8. Explain the "spendthrift clause."

9. What conditions must be satisfied before the insurance under a life policy takes effect? How are these conditions affected by the issue of a "conditional receipt" for the first premium?

## Historical Development of Life Insurance in the United States

**Individual Insurers.** Life insurance in this country, as elsewhere, was an outgrowth of marine insurance. In colonial and revolutionary times marine insurance was written by individual insurers or underwriters, who generally transacted their business in the coffee-houses where the merchants who required their services were in the habit of meeting. As the business increased, public insurance offices were established in Philadelphia, Boston, and New York in which the underwriters made their headquarters and where persons desiring to effect either marine or life insurance could arrange for a policy. Occasionally these underwriters granted insurance covering the risk of capture by pirates to persons making a voyage, the object of the insurance being to provide the necessary funds to pay ransom. Policies were later issued covering the risk of death during a voyage, but such policies were few in number. The insurance obtained in this way was invariably for a short period only, usually 6 months or a year, or for the duration of a voyage. The customary rate of premium was 5 per cent per annum. While this appears to be a high rate of premium when compared with the cost of term insurance at the present time, it must be remembered that there was no medical selection, the applicant merely appearing before the underwriters who satisfied themselves of his general suitability for insurance. Moreover, policies were taken only when some unusually hazardous risk was about to be undertaken.

**The Presbyterian Ministers' Fund.** About the middle of the eighteenth century (1759) the Synod of Philadelphia established

the Presbyterian Ministers' Fund, which is noteworthy in two respects, as the first corporation organized in America for the purpose of furnishing benefits payable on the occurrence of death, and because it has survived to the present time. The Presbyterian Ministers' Fund was intended to provide the ministers of the Presbyterian Church with a means of supplementing, in event of their death, the inadequate provision for their families which was possible from existing church funds. The fund granted what are now known as survivorship annuities, i.e., annuities commencing at the death of the policyholder and continuing thereafter during the remaining lifetime of the beneficiary.

Subscriptions were solicited to supplement the fund; but such additional amounts were intended to extend the benefits to those not subscribers, and the rates were intended to be sufficient in themselves to provide the annuities. A safeguard existed in the rule that, if premiums had been paid for less than 15 years, the balance of 15 years' premiums was to be paid by deducting half of each annuity payment as long as necessary. The benefits of the fund were originally available only to clergymen of the Presbyterian Church, but they were later extended to include students of Presbyterian colleges. Similar limitations exist at the present time, although the society has long since altered its plan of operation and has for many years issued regular life and endowment policies to those qualified for membership. The society is remarkable for the success which has attended its operation and for the low cost at which insurance is furnished. The latter feature is due chiefly to the fact that the rates of expense and of mortality are much lower than those prevailing in the regular life-insurance companies since the society employs no agents and operates entirely among a section of the population which is subject to a very low death rate.

**The Insurance Company of North America.** In the closing years of the eighteenth century there was a period of business prosperity which was largely due to the effect of wars abroad and to the neutral position occupied by the United States. During the last 10 or 15 years of the eighteenth century about 30 insurance companies were organized, of which 5 had power to issue life-insurance policies. Only one of these companies, however, actually issued such

policies. That company was the Insurance Company of North America, which was chartered in 1794 and was the first business corporation to transact life insurance in America. The life-insurance business transacted was, however, negligible. In 5 years only six policies were issued, apart from ransom policies which were issued also by individual underwriters. The chief reasons for the small amount of life-insurance business transacted were that there was as yet practically no public knowledge of or demand for life insurance, largely because of the undeveloped condition of the country, while the rates of premium charged were very high, and the general conditions of the policies were severe. Although the scientific grading of premiums by age had already appeared in Europe, arbitrary premium rates were still in use in America, and, in view of the insignificant amount of business, nothing better could have been expected. The Insurance Company of North America discontinued life-insurance business entirely in 1804.

**Stock Companies.** Apart from the very few policies issued by the Insurance Company of North America and the reversionary annuities of the Presbyterian Ministers' Fund, the only life-insurance contracts issued prior to the nineteenth century were those granted by individual underwriters. The disadvantages of this system gradually became evident. Disputes about the liability of the insurer sometimes arose when a claim was made, and sometimes the insurer, even though admitting liability, was unable to pay. It was natural, therefore, that the first important development of the business should be in the direction of securing a better guarantee of payment. This was accomplished by the organization of stock life-insurance companies. During the first 40 years of the nineteenth century a large number of stock life-insurance companies were organized, most of which had a very large capitalization. Many of these companies were conducted on unsound lines and had a brief existence. Others met with considerable success. The chief of the latter group were the Pennsylvania Company for Insurance on Lives and Granting Annuities (1809), the Massachusetts Hospital Insurance Company (1818), and the New York Life Insurance and Trust Company (1830). The capital stock of each of the first two of these companies was \$500,000 and of the third \$1,000,000,

sums which represented, particularly then, a substantial guarantee of payment.

The Pennsylvania Company was the first commercial corporation to be organized in this country for the sole purpose of issuing life-insurance policies and annuities. It was also the first American company to transact life insurance on a scientific basis, requiring an application and medical examination and charging premiums that increased with age. The terms of its policies were much less liberal than those of present-day contracts. For example, no provisions was made for days of grace or for cash or other surrender values, while the sum insured was not payable until 60 days after proof of death. Most of the policies issued by the Pennsylvania Company and the other companies mentioned were on the term plan, either for 1 or for 7 years, although some ordinary-life policies were issued. The premium rates charged by the Pennsylvania Company are illustrated in Table 21-1. For comparison, specimen

TABLE 21-1. ANNUAL PREMIUM RATES PER \$1,000

Age	Pennsylvania Company (1814)			Nonparticipating ordinary-life rate 1955
	1-year term	7-year term	Whole of life (ordinary life)	
20	\$15.00	\$16.20	\$23.90	\$13 92
30	18 20	19 20	29 30	18.05
40	22.30	24 30	37.20	25 53
50	30 30	33 40	49.90	38 09
60	42 90	48 00	70 00	58 73

SOURCE: C. K. Knight, *The History of Life Insurance in the United States to 1870*.

nonparticipating rates for ordinary life insurance charged at the present time are also shown. Present-day premium rates are based on a lower interest assumption (which, in itself, would mean higher premiums) but on very much lower assumed rates of mortality, especially at the lower ages.

Specimen rates charged for life annuities are given in Table 21-2, together with approximate modern rates for comparison.

TABLE 21-2. ANNUITY PURCHASED BY \$1,000 (MALE LIVES)

Age	Pennsylvania Company (1814)	Approximate rate 1955
40	\$ 80 40	\$ 40
50	92.70	50
60	113.50	66
70	158.10	95
80	271.00	150

Reduction in the rate of interest obtainable, greatly increased longevity among annuitants, and greater expense are responsible for the much less favorable terms for annuities which prevail at the present time.

The Massachusetts Hospital Insurance Company was organized for the purpose of carrying on the life-annuity business that had been a monopoly of the Massachusetts State Hospital and also to transact the business of life insurance. Under the terms of its charter the company had to pay one-third of the profits on its life-insurance business to the hospital, as a result of which very little life insurance was written.

The New York Life Insurance and Trust Company<sup>1</sup> was similar to the other two companies in most respects but is notable as the first company to establish an agency system and to make active efforts to secure business. It issued about 200 policies a year in its early and more active period.

These three companies had, or subsequently obtained, the power to transact trust business as well as to issue life-insurance policies, and all of them subsequently gave up the life-insurance business entirely. They all still exist as trust companies.

**Transition from Stock to Mutual Companies.** In 1836 there was organized the Girard Life Insurance and Trust Company of Philadelphia, which inaugurated a new principle, that of granting to policyholders participation in the profits of the business. The Girard was a stock company but, because of the participation fea-

<sup>1</sup> Not to be confused with the New York Life Insurance Company.



ture, was the connecting link between the stock companies and the purely mutual companies which were to come later. The first dividends of the Girard Company were allotted in 1844 in the form of additions to the insurance under policies which had been in force at least 3 years. The idea of allowing policyholders to share in surplus was due in part to the considerable profits made by some of the stock companies and in part to the development of the mutual system in other branches of insurance. In addition to participation the Girard introduced some other minor liberalities, one of the most important of which, from a historical point of view, was the provision for 15 days of grace in payment of premiums.

**Mutual Companies.** The business done by the companies mentioned in the preceding pages was of very limited extent. Only one of these companies made active efforts to obtain business in addition to that which came unsolicited. There was, moreover, not only a general lack of knowledge of the benefits of life insurance on the part of the public but also considerable prejudice against it on religious grounds. As late as 1809 the courts of Massachusetts discussed the question whether the contract of life insurance was legal and not "repugnant to sound morals." There is no doubt that, during the first half of the nineteenth century, this prejudice was partly responsible for the slow growth of the business, as may be judged from the fact that some of the early reports of the companies make special reference to it and give arguments to prove that life insurance is not an immoral institution. About 1840 the prejudice against life insurance was beginning to disappear. The operations of the stock companies had, to some extent, educated the public in the uses and benefits of life insurance, and the general progress in the development of the country and the increase in population had resulted in an increased demand for insurance. Added to these reasons was the fact that the cost of life insurance was being reduced through the introduction, on a large scale, of the mutual plan. Conditions in 1840 were very favorable for the important developments of life insurance which then took place and for a considerable expansion of the business.

The first company to commence operations on the mutual plan was the Mutual Life Insurance Company of New York, which

was chartered in 1842 and commenced business in 1843. The requirement of a high degree of security for the payment of claims, which had been an important factor in the development of the stock life-insurance companies, was met by a plan which then appeared for the first time. This was a provision in the charter that active business would be commenced only when application had been made for a sufficiently large amount of insurance to provide an adequate basis of operation. The charter of the Mutual Life provided that applications for at least \$500,000 of insurance must be made before active operations could be commenced; as a matter of fact, business was not begun until applications for double that amount had been secured. The Mutual Life was successful from the first and within 5 years had issued over 4,000 policies. The principal features of the company which distinguished it from the stock and mixed companies were that policyholders were entitled to share in the management of the company through the election of directors and that *all* profits belonged to the policyholders. At the same time, there was no personal liability involved beyond the amount of premiums paid.

The New England Mutual Life Insurance Company, which commenced business in the latter part of 1843 (although chartered in 1835), illustrates the other method which was used to establish a mutual life-insurance company with adequate security. This method was practically equivalent to commencing as a stock company, except that provision was made for retiring the "stock" at an early date. The stock capital was called the "guaranty capital." The New England had a guaranty capital of \$100,000. Provision was made in the charter for paying legal interest on the guaranty capital (which was thus equivalent to borrowed money) and for its redemption out of the net profits of the company's business after a stated period, after which the company became purely mutual.

Among the other companies which were organized during this period and which are still in operation are the New York Life, the Mutual Benefit, the State Mutual, and the Connecticut Mutual, all of which were mutual companies. A great many companies were organized, nearly all on the mutual plan, between

1840 and 1850. Many of these were organized on unsound lines, and, as in the case of the companies established during the period of expansion at the end of the eighteenth century, many soon disappeared.

**The Note System.** The "part-note" system, a new feature of the business which led to considerable controversy and which is important because it was in large measure responsible for the general introduction of the annual-dividend plan, was introduced about this time by the New England. The large profits or savings which had been made both by the stock companies and by the mutual companies had led to the idea among the public generally that it was not necessary for the companies to charge such high rates of premium. Moreover, it was argued that the saving in claims which was effected by medical selection justified a substantial reduction in cost in the early years of insurance. This led to the idea that part of the premium could be accepted in the form of a note which would subsequently be redeemed from dividends.

The note system was used by the majority of the companies at this time, and many of them accepted notes to the extent of half or even more than half of each premium. As a general principle, where part of the premium is accepted in the form of a note the amount so received must be limited so that the actual cash received is not less than the amount required to pay for actual expenses and for the net risk incurred by the company. Moreover, if no cash value is allowed at the end of the first year to a discontinuing policyholder who has paid the whole of his premium in cash, it is clear that no note at all should be accepted in part payment of the first year's premium and that the note should, in general, be not greater than the value allowed to a policyholder who has paid cash. In other words, while notes are good in so far as they can be used for payments which are due to the insured either as part of the sum insured or as dividends or cash value, there should be no insurance on credit and no discrimination against the policyholder who pays the full premium in cash. Failure to recognize these principles was responsible for the failure and abandonment of the note system.

The note system, with its accompanying reduction in the im-

mediate cost of insurance, led to the adoption of the annual-cash-dividend plan by those companies that did not accept notes. Hitherto dividends had been allotted chiefly in the form of additional insurance and were not available for part payment of premiums. Another form of dividend was the "scrip" dividend, which was practically an I.O.U. from the company redeemable on some stated date in the future or at the time the policy became payable. Scrip dividends usually bore interest.

From 1850 until the Civil War there was a period of general progress and expansion in life insurance which was interrupted only by the financial panic of 1857. Many of the companies in existence at the present time were organized during this period. Only one of these, the Equitable Life Assurance Society of the United States, need be specially mentioned. The Equitable was formed in 1859 as a stock company.<sup>2</sup> This company, through vigorous methods and capable administration, rapidly became one of the leading companies in the country in volume of insurance written. The success of the Equitable was in large part responsible for the great impetus given to life insurance at the end of the first half of the nineteenth century.

**The Civil War.** Conditions immediately prior to the outbreak of the Civil War were in many ways very favorable to the development of life insurance. The country had recently come through a financial panic and was entering on a period of expansion and general prosperity. There is little doubt that, quite apart from the effects of the war, a great development of life insurance would have commenced in the sixties.

The immediate effect of the war was to arrest progress, and in the first year of the war life-insurance business was practically stationary. Most of the companies were situated in the North, and the position with regard to policyholders in the Southern states introduced some problems. The policies of those who actively participated in the fighting were in most cases void by their terms, and considerable profits were made by the companies from forfeitures. For nonenemy policyholders, some of the companies agreed to carry the risk of military service at an annual extra premium of 5

<sup>2</sup> The Equitable became a mutual company in 1925.

per cent, the extra premium being applicable either to existing policyholders or to new applicants; but many of the companies did not undertake this risk at all.

The general rise in prices which followed the cutting off of supplies and the increased demand for commodities of all kinds resulted in a considerable expansion of trade, and, after the first effects of the war had ceased, the life-insurance business shared in this expansion. The increase in the amount of insurance written at this time was, in fact, remarkable. During the last 3 years of the war the rate of annual increase in the amount of life insurance in force was over 30 per cent. With the conclusion of the war the rate of increase became even greater, and for several years the business in force increased by over 50 per cent annually. The financial situation was such that high rates of interest were obtainable on investments, an important factor in enabling large dividends to be paid.

**Development of the Agency System.** At the same time a highly important development was taking place in the agency system. The remuneration payable to agents for securing new business had increased from 5 per cent of the premium, which had been the customary rate, to 35, 40, or even 50 per cent of the first premium with, sometimes, renewal commissions in addition. This increased remuneration opened up a new and attractive field of business to a large class of persons and was possibly the chief factor in the rapid growth which has been described.

While this development was in some ways a good thing, it caused some difficulties. By increasing and concentrating the agent's remuneration in the first year, or in the early years, any expansion of new business results in the necessity of drawing on surplus to provide the reserves required during the earlier years under the net-level-premium-reserve system. This, as explained in Chapter 6, has required a reconsideration of the whole system of reserves and has led more recently to changes in the system of agents' compensation.

**Period of Expansion: 1865 to 1870.** Up to 1854, life insurance had been further popularized by a more general liberality in the terms of the policy and particularly by the introduction of non-

forfeiture provisions. It is not surprising, therefore, that many new companies were formed in the period 1865 to 1870. The rapid increase in the number of companies and in the amount of business written and in force was not an entirely healthy growth. The increase in commission rates, for example, was but one feature of a general tendency to extravagant methods. The sale of life insurance was sometimes conducted on high-pressure lines, and many persons were disappointed with the results of their policies so that the confidence of the public was somewhat shaken. In addition, regulation and control was ineffective or nonexistent, except in a few states, and some of the new companies had been organized or conducted on unsound principles and were soon in a precarious financial condition.

**Period of Depression: 1870 to 1880.** The effects of these influences were not long in appearing, and the succeeding decade was marked by the collapse of many of the companies which had been organized in the sixties. In fact, the majority of the life-insurance companies that were organized in the states of New York, Connecticut, and Massachusetts from 1860 to 1869 passed out of existence before 1880. One of the companies organized during that period which survived was the Metropolitan Life Insurance Company, now the largest life-insurance company in the world. In the state of New York alone, 46 companies ceased to exist. The chief reason for the collapse of these companies was probably extravagance, particularly in regard to commissions. Inefficiency and general ignorance of the business were also responsible. Dividends were paid that had not been earned. There was laxity in the selection of risks and ignorance of proper methods of premium and reserve calculations. Another and important factor which had a great deal to do with the general breakdown of so many of the young companies at this time was the sudden stiffening of the requirements of some of the state insurance authorities. The increased rigidity of reserve requirements, for example, contributed largely to the downfall of some of the smaller and weaker companies. The general situation was aggravated by the financial depression which had now succeeded the expansion of the postwar years. Meanwhile, the business of the

older and stronger companies had fallen off, the annual new business having dropped to about half what it had been during the most favorable years.

**Introduction of Assessment Insurance.** These circumstances naturally shook the confidence of the public in life insurance. Numerous failures of "old-line" companies had led many people to doubt the advisability of risking their money on a plan by which a considerable part of the premium paid was for benefits to be received far in the future. In addition, the note system had encouraged the general idea that life insurance could be furnished at much lower premiums than were charged by the companies. The degree of illiberality which still existed in the general terms of life policies was a further cause of dissatisfaction. The cumulative effect of these factors was to create a demand for some form of cheap insurance which would not involve the possibility of forfeiture, because of inability to continue payment of premiums, of sums beyond the actual cost of the insurance that had been furnished. A further reason for the general demand for cheaper life insurance was that the annual-dividend system seemed likely to be abandoned by the regular companies in favor of tontine or deferred-dividend systems. These systems had been introduced by the Equitable, and the popularity which such schemes had acquired, together with the considerable advantages they possessed from the companies' point of view, had led to their general adoption.<sup>3</sup>

All these circumstances created a situation which was very favorable to the introduction of the assessment plan of insurance, which made its appearance at this time. The assessment plan offered insurance at cost and without the necessity of reserve accumulations with resulting possibilities of forfeiture. The system appealed to those who took the view that if the companies failed, as seemed to be a possibility in view of what had happened in recent years, there was no financial loss to the individual member. The assessment plan originated with the fraternal orders, but during the 1880s thousands of commercial assessment-insurance societies were formed for the sole purpose of transacting life-insurance business

<sup>3</sup> See Chap. 7.

on this basis. The arguments used by these organizations were extremely plausible and were such as to appeal to those who had not the technical knowledge necessary to detect their defects.<sup>4</sup>

**Developments to 1905.** The pruning-out process which had taken place among the level-premium, or "old-line," companies in the seventies and the temporary experiment in assessment insurance resulted eventually in a healthier condition of level-premium-life-insurance companies generally. During the last 20 years of the century the rapid growth which had been interrupted was resumed and greatly extended. The rapid development of level-premium life insurance during these years was due in large measure to the development of the agency system. The tontine and deferred-dividend plans had also become widely popular through the prospect which they held out of large gains for surviving policyholders, while the continual increase of liberality in policy conditions and the development of new and attractive schemes of life insurance were also factors.

By the end of the nineteenth century the business had grown to an extent which was, and still is, unequalled in any other country. Several of the larger companies in New York had become financial institutions of the first magnitude. They were recognized as factors in the general financial situation because of their enormous funds and the consequent influence which they wielded in financial matters generally. While the great increase in size was probably, in itself, a good thing, it was unfortunately accompanied in some instances by extravagance and abuse of power. During the early years of the twentieth century there was a continually increasing feeling that, quite apart from the rapid growth and size of some companies (which in itself was regarded by some as dangerous), the general condition and management of the large companies were not all that they should be. This feeling finally culminated in 1905 in a demand for legislative inquiry into the business of life-insurance companies in the state of New York. The effects of this investigation were felt over the whole country and, in fact, over the whole world. Its importance as a landmark in life-insurance history in America warrants a somewhat detailed consideration.

<sup>4</sup> See Chaps. 1, 17.



**The Armstrong Investigation.**<sup>5</sup> The objects of the investigation, which was conducted in New York from Sept. 6 to Dec. 30, 1905, by a legislative committee under the chairmanship of Senator Armstrong, are clearly set forth in the resolution appointing the committee, which reads as follows:

To investigate and examine into the business affairs of life insurance companies doing business in the State of New York, with reference to the investments of said companies, the relation of the officers thereof to such investments, the relation of such companies to subsidiary corporations, the government and control of said companies, the contractual relations of said companies to their policy-holders, the cost of life insurance, the expenses of said companies, and any other phase of the life insurance business deemed by the Committee to be proper, for the purpose of drafting and reporting to the next session of the Legislature such a revision of the laws regulating and relating to life insurance in this state as said Committee may deem proper.

There was little doubt about the necessity for such an investigation. As one writer has expressed it: "Whether the companies were solvent and whether their affairs had been mismanaged and their funds squandered were questions of vital concern, not only to their millions of policyholders, but to all men of affairs, in this country at least, whose interests might be affected by an investigation of such financial matters."<sup>6</sup>

Although the investigation did not reveal any financial unsoundness of any of the companies investigated, the testimony which was taken during the investigation showed a state of affairs in some of the companies that called for drastic measures of reform. The testimony may be reviewed briefly under the three heads of (1) government and control, (2) investments, and (3) expenses and the cost of insurance. In what follows it is to be remembered that not all the conditions referred to were found to exist in all the companies. Some of the companies were entirely or practically free of any grounds for criticism.

<sup>5</sup> Sometimes referred to as the "Hughes investigation." Charles Evans Hughes (later Chief Justice of the United States Supreme Court) was examining counsel for the committee.

<sup>6</sup> G. A. Henderson, *History of the Insurance Investigation*.

*Government and Control.* It was found that, in general, the directors or trustees of the companies did not exercise, in any real sense, a proper control over the management of the business. Where committees of directors had been formed to supervise the various departments of the business, they usually merely carried into effect, without examination or criticism, the proposals of the officers of the companies. In the words of the report with reference to one of the largest companies: "The Committee on Agencies did not supervise the most important of the agency contracts. The Committee on Expenditures permitted large disbursements without proper vouchers and the Auditing Committee failed properly to audit the company's accounts." An exception to this criticism was that the committee in charge of investments in each company took an active interest in the matters coming within its jurisdiction, in which individual members of the committees frequently had a personal interest.

The policyholders had no real voice in the management of the companies. In the stock companies this was not to be expected, since there was no legal objection to majority stockholders controlling or holding the principal executive positions and thus exercising the control of the company to which they were entitled by ownership. In mutual companies, where the policyholders theoretically exercised control of their own funds through their voting power, this power had practically been eliminated through the wide use of *proxies* transferring voting rights to an officer of the company. In some companies the management had secured from policyholders a large number of proxies which by their terms were effective until canceled by the policyholder and had thus a virtually permanent power of control in their own hands.

The recommendations of the committee arising out of this state of affairs included proposals for measures leading, in the case of mutual companies, to a more active and effective control of the business by policyholders. These measures included closer regulation of elections by the state insurance department and limitation of the effectiveness of proxies to a single election. The possibility of granting policyholders of stock companies the right to participate in the election of directors was considered, but there was no legal

way by which this could be enforced. The only measure proposed with the object of giving policyholders of stock companies a share in management was the suggested facilitation of the conversion of stock companies into mutual companies through purchase of the stock by the policyholders. Since the investigation several of the largest stock companies in the country have been mutualized.

*Investments.* A great deal of testimony was taken bearing on improper or irregular practices which were found to exist in the financial operations of certain of the companies. By various methods of evasion, real estate had been held indefinitely in violation of the law. Expensive and unnecessary buildings were owned and maintained at an extravagant rate of expense, the yield on such investments being artificially increased by the application of profits made in other directions to reduce the book values.

Some of the companies, through ownership of the stock of banks and trust companies, had practically entered into the banking business and, in some cases, other types of business. The relations that the companies bore to subsidiary corporations in which they were interested or which they controlled were frequently such as to curtail seriously their freedom of action in certain respects. Thus, some of the larger companies maintained large inactive balances in some 20 or more different banks and trust companies in which they were interested. These balances were often not available for withdrawal at will. They were responsible for a reduction in the rate of interest earned by the companies and consequently affected the dividends payable to policyholders.

Some of the companies had invested extensively in common stocks. A result of this was that they became interested in many legislative and other activities far removed from the field of life insurance. This in turn led to efforts to control legislation by the maintenance of organized lobbies in the state legislature and the expenditure of large sums of which no accounting was given, a practice which was severely criticized by the committee.

Criticism was also directed against the practice of participation in syndicate operations in financing bond issues of commercial corporations. The companies concerned maintained that these operations had, as a matter of fact, resulted in large profits. While

this was doubtless true, the committee pointed out that the companies were not incorporated to make money by speculation but were chartered to furnish life insurance. There may, however, be some difference of opinion about the propriety of a large investor such as a life-insurance company participating in the underwriting of new issues of bonds. Where the bonds underwritten are of such amount and character as the company would be prepared to take as an investment at the market price, the practice is not necessarily objectionable.

The chief recommendations of the committee with regard to financial matters were that investment in stocks be prohibited and that existing holdings of stocks be disposed of within a limited period; that all syndicate participations or transactions for purchase or sale on joint account, or agreements to withhold securities from sale, be prohibited; and that officers and directors be prohibited from any personal interest in any capacity in the financial transactions of the companies. As already explained,<sup>7</sup> the restrictions on investments in stocks enacted in response to these recommendations were later substantially modified.

*Expenses and the Cost of Insurance.* Extravagance had become common. Much was made of this aspect of the investigation, particularly in the public press because of its news value, but compared with the practices that have already been explained the effects of extravagant methods of conducting the business, except in regard to the payments of excessive commissions for new insurance, were of comparatively little importance. The large sums paid to officers in salaries and the amounts expended in miscellaneous extravagance were far beyond the sums which were necessary or sufficient for the proper conduct of the business, but the total amounts involved were small when compared with the total income and disbursements of the companies and really had little influence on the cost of insurance. The commissions payable on new policies, however, were costing the policyholders sums much in excess of what was proper or necessary. Commission rates had been gradually increased until it had become a not uncommon thing to pay in commission alone practically the whole of the first year's premium on

<sup>7</sup> See Chap. 11.

some types of policies. The companies attempted to justify these large expenditures for commission on the plea that they were rendered necessary by competition. This raised the question whether an indefinite increase in the size of the companies benefited the policyholders generally, and a good deal of expert testimony was taken on the question of the advisability of limiting new business.

Another type of expense, which although not of such magnitude as seriously to affect the cost of insurance was the "legal expense" referred to above, most of which was spent in the attempt to influence legislation. It is proper and necessary for life-insurance companies to present their views on pending legislation affecting their operations; but this should be done openly, and the expenditures should be kept within proper limits and duly accounted for.

The committee's recommendations bearing on expenses and the cost of insurance included a limitation on the amount that could be spent in securing new business as well as a limitation on total expenses and on the amount of new business itself. The question of "legal expense" was dealt with by recommending that a detailed statement of all regular legal expenses and a further statement of expenses in connection with legislative matters be included as part of the companies' annual statements.

*Dividends.* In the course of the investigation a great deal of time was spent in discussing methods of dividend allotment. The committee fortunately did not attempt to establish any standard system for the distribution of surplus to policyholders. It recommended, however, the prohibition of the deferred-dividend system because of the facilities for extravagance which that system had provided. It had been shown that one of the chief reasons why the writing of very large amounts of new business at excessive cost had been possible was the possession of deferred-dividend funds for which no specific liability was assumed but which were treated as "surplus." The committee rightly pointed out that, in the absence of any proper system of accounting for deferred-dividend accumulations, the interests of the deferred-dividend policyholders were insecure. While the remedy for this might have appeared to be the establishment of a proper system of accounting, the committee chose rather to recommend the entire prohibition of the system.

In this connection, the committee also recommended a limitation on surplus, although with the establishment of a proper accounting of existing deferred-dividend funds and the elimination of the deferred-dividend system for future issues, the need for any such limitation had been removed.

With unimportant modifications, practically all the recommendations of the Armstrong committee were carried into effect in the New York Insurance Law of 1906. That law established in many respects a standard code for state laws affecting life-insurance companies, and many of its provisions were copied by other states. This result was due largely to the recommendations of the Committee on Uniform Legislation (the "Committee of Fifteen"), which was appointed at a conference of governors, attorneys general, and insurance commissioners at Chicago on Feb. 1, 1906.

The majority of the provisions of the New York Insurance Law of 1906 were good. Some of them were too drastic, and some were defective in other ways. For example, the prohibition of all investments in stocks was unnecessarily severe and has now been modified. The prohibition of the deferred-dividend system was also probably unnecessary, especially in view of the difficulties which arise because of the incidence of expenses under modern conditions. The limitation of new business was, we believe, an error, and although the principle of such a limitation has been retained in the law up to the present time, the law has never been really effective and has, in fact, been virtually a dead letter. At the present time the superintendent of insurance has power, in certain circumstances, to waive the provisions of the law relating to the limitation of new business.<sup>8</sup> The limitation on surplus, always of questionable merit, has also been modified and liberalized. As explained in Chapter 11, this limitation has been a serious obstacle in connection with investment in stocks.

**1907 to 1929.** The period from the Armstrong investigation to the Depression of 1929 was one of great progress and expansion and was marked by several important new developments. While the immediate effect of the investigation was to cause a sharp reduction in the amount of new insurance written, confidence was

<sup>8</sup> See New York Insurance Law, sec. 212.

soon restored, and for a long period of years there was a steady increase in the aggregate volume of new business, insurance in force, and assets. This increase in volume of new insurance was interrupted by the minor depression of 1920, but thereafter the upward trend was resumed and continued until 1929, when new insurance issued (ordinary, group, and industrial) reached the high point of almost \$20 billion while total insurance in force passed the \$100 billion mark. During the 10 years from Dec. 31, 1919, to Dec. 31, 1929, both total insurance in force and assets were approximately trebled.

This unprecedented growth was due to a combination of circumstances. The period was one of great economic prosperity, which was the principal cause of expansion; but this expansion was greatly accelerated by the introduction of group insurance, by the inclusion in life-insurance policies of provision for disability and double-indemnity benefits, by the development of optional settlements of policy proceeds, and by the greatly increased use of life insurance for business purposes and as a means of provision for payment of inheritance taxes. Another element in the expansion was the low cost of insurance with increasing dividends as a result of very favorable mortality experience, high interest earnings, and freedom from capital losses.

Two events of outstanding importance in the period 1907 to 1929 were the First World War, 1914 to 1918, and the influenza epidemic of 1918-1919.

*First World War.* The direct effects of the First World War, great as they were in many directions, were comparatively unimportant in relation to life insurance. Most of those who actively participated in the risks of warfare were young men who either did not carry life insurance with the regular companies or who were insured for comparatively small sums. At the outbreak of the war most of the companies had been issuing policies which were free from all restrictions on military or naval service, but it became necessary at that time to eliminate the risk of warfare under new policies unless a suitable extra premium was paid. When the war was over, it was found by many of the companies that the cost of the extra claims attributable to war service was so slight that in

some cases the whole of the extra premium which had been collected was refunded. A few of the companies had been operating in Europe for some years before the war. The proportion of their business, however, on the lives of citizens of European countries resident there was small and consisted largely of policies on the lives of persons beyond military age, so that the effect of the war, even in the case of those companies, was not serious. Unlike conditions during the Second World War, there was comparatively little war hazard to the civilian population. The few American companies which then transacted business in Europe discontinued the issue of new business there soon after the end of the war because of unsatisfactory conditions in regard to currency depreciation and taxation and also because the full amount of new business permissible under the limitations of the New York law could be obtained in the United States and Canada.

*War Risk Insurance.* In 1917, by an extension of the War Risk Insurance Act of 1914 (which had provided for government marine insurance of ships and cargoes prior to the entry of the United States into the war) the government established a plan of life insurance for members of the armed services. This was called war risk insurance. It was administered by the Bureau of War Risk Insurance. Policies were issued upon application in amounts of from \$1,000 to \$10,000 on the yearly-renewable-term plan. The premium rates charged were the net premiums by the American Experience Table with  $3\frac{1}{2}$  per cent interest. It was contemplated that the expenses of operation, together with any excess mortality cost not covered by the premiums, would be paid by the government through general taxation. There was a real need for such a plan since the companies could not carry the largely unknown hazards of combatant service except subject to very substantial extra premiums.<sup>9</sup>

These policies provided for conversion to a permanent plan within 5 years from the termination of the war. The amount of insurance issued by the Bureau reached a total of over \$40 billion, but when the war terminated a large proportion of the insurance issued was lapsed.

<sup>9</sup> The usual extra premium charged by the companies for regular combatant service was 10 per cent, that is, \$100 per \$1,000 of insurance.



War risk insurance converted to permanent plans of insurance after the war is known as United States government life insurance (USGLI). Such insurance was made available to members of the armed forces in active service and, later, to veterans of the First World War no longer in service.

*The Influenza Epidemic.* The influenza epidemic which commenced in the fall of 1918 was financially a very much more serious matter to the life-insurance companies than the war. The epidemic, which was world-wide, probably accounted for more than 10,000,000 deaths. In the United States the number of deaths directly attributable to the epidemic was estimated at more than 450,000, that is, more than 3 per 1,000 of the population. The financial effect on the life-insurance companies was greatly increased by the fact that death claims from the epidemic were mostly among the younger policyholders whose policies had been only a short time in force. The epidemic affected all classes of the population and caused an increase in the companies' mortality cost of 50 to over 100 per cent. The smaller and more recently organized companies, whose policyholders were mostly persons at the lower ages, were most severely affected, many of them experiencing an increase in mortality cost of considerably over 100 per cent. The severity and cost of this epidemic were unprecedented in the history of life insurance and provided a striking demonstration of the necessity for adequate contingency funds.

**The Depression.** The chief effects of the economic collapse which was ushered in by a spectacular crash of values in the stock market in the fall of 1929 were not immediately felt by the life-insurance companies. Most of the companies had little or no investment in stocks. Many of the large companies, being incorporated in the state of New York, were prohibited, under the law, from owning common stocks, and their investment in preferred stocks was small and, in general, limited to the very best issues. The law which prohibited investment in common stocks thus seemed to be justified, although at the time it was enacted the reasons advanced for it did not include the possibility of serious losses through a collapse of values. The other consequences that were to follow did not at first appear, and after a year of the Depression the companies could show at the end of 1930 an increase of nearly \$5 billion in insur-



ance in force and an increase of \$1½ billion in assets with only a slight reduction in new insurance.

In 1931 and 1932 there were sharp decreases in the amount of new insurance paid for. Terminations by surrender and lapse greatly increased, and in 1932, for the first time in a generation, the total insurance in force decreased. The decrease continued in 1933, but there has been an increase each year since that time. By 1932 the companies began to feel the effects of the Depression in reduced surplus earnings. Surplus was substantially reduced by the reduction in value of nonamortizable securities in spite of the use in the annual financial statements of artificial "convention values" greater than the current market values. The rate of interest had commenced to fall. The mortality rate had increased. A marked feature of this increase was the number of suicides, which rose to 30 per cent above normal during the early 1930s. Much of this excess mortality was on policies of large amount. In addition, disability claims and losses had increased to such an extent that practically all companies had either abandoned the disability-income coverage or radically altered its terms. These unfavorable elements led to many reductions in dividends, which in most cases were the first reductions to be made in 10 years or more. Premium rates for nonparticipating policies were also generally increased.

The nadir of the Depression, so far as its effect on insurance written and in force was concerned, was reached in 1933. During that year the unfavorable influences already mentioned increased in intensity. New business decreased to its lowest point in 10 years, while lapses and surrenders were abnormally high, and total insurance in force fell below the \$100 billion mark which had been reached in 1929. Owing to unfavorable conditions throughout the country, defaults in the payment of mortgage interest increased, and a considerable amount of real estate had to be taken in foreclosure, while the number of securities defaulted or in receivership also increased. Although the aggregate amounts involved in such defaults were large, they at no time represented a large percentage of the total mortgages or securities held and were a small percentage of the total assets of the companies.

after his inauguration, President Roosevelt, acting under the emergency powers granted to him by Congress, temporarily closed all banks. During this brief "bank holiday" of a few days no payments of any kind could be made by check. All regular contract payments were thus necessarily suspended but were immediately resumed when the bank holiday ended. A considerable number of banks remained closed, while savings banks continued to limit the free withdrawal of deposits. There had, in the meantime, been a tremendous increase in the demand for loans and surrender values, to be paid presumably as soon as the banks opened again. The closing of the banks had caused many people to feel that their money was safe nowhere except in their own possession, and in cash. It soon became evident that a psychological situation had been created which, if not dealt with, would, as soon as the banks opened and payments could be made, cause a run on insurance companies that might develop serious proportions. Insurance companies are not banks. Their assets are not invested as are the assets of banks, and such a run might have necessitated sales of securities on a scale which would have been disastrous to all concerned and which might have endangered not only the solvency of the life-insurance companies but the whole financial structure of the country.

The greater part of the cash demanded was not required for any special need. Much of it was wanted simply in order to hoard it against any further restrictions on the free right of withdrawal. In these circumstances drastic measures were necessary for the protection of all. On Mar. 9, 1933, the superintendent of insurance of the state of New York issued an order prohibiting all companies doing business in that state from making loans or paying cash values except to the extent of \$100 in cases of extreme need. This order was immediately followed by similar orders in certain other states. In still other states, however, the authorities made no rulings but, on the contrary, denied the right of any state to place any restrictions on contract payments so far as policyholders in *their* states were concerned. There was thus, at first, great confusion and doubt about what, if any, payments of cash values and loans could or must be made. By the end of April the majority of the states had established a more or less uniform and liberalized set of rules which

permitted *unrestricted* withdrawals for certain specified purposes only, these covering such "needs" as food, rent, mortgage interest or principal payment, hospital and medical expenses, funeral expenses, payrolls, and insurance premiums. Some states retained the original severe limitations, while a few states had already removed all restrictions. By this time it was generally established that payments could be made in accordance with the rules of the state of *residence*, so that states which removed restrictions obtained for their own residents an advantage over those of other states. This fact and the gradual recovery from panic psychology led to gradual modifications in the restrictive regulations, and after a few months all restrictions were removed without causing any noticeable increase in the demand for cash.

There are two things in connection with the moratorium which require emphasis. (1) It was in no way a sign of weakness on the part of the companies but was purely a protective measure for the benefit of all policyholders which was *necessary* to prevent the destruction of values by the selfish or foolish behavior of some of them. (2) Except for the few days during which all the banks were closed, there was never any suspension or delay in contract payments *due and payable*, such as death claims, matured endowments, annuities, disability benefits, and amounts definitely payable under supplementary contracts. Moreover, there was never any *complete* cessation of other payments. At first, small amounts were allowed for cases of need, and later the restrictions were liberalized to the point where in most cases there was virtually no limitation.

A serious legal question existed, of course, about the right of the state authorities to issue or enforce orders suspending contract provisions. Some of the companies had the right under the terms of their policies to delay such payments for 3 or 6 months, but many had not. A delay clause is now mandatory in life-insurance policies under the Standard Nonforfeiture Law.

*Mortgage Moratoria.* In 1933 many of the states enacted mortgage-moratorium laws which provided that, during the emergency declared to exist, mortgage-foreclosure sales might be postponed and the periods of redemption extended.

The effect on mortgage investments held by the companies at the time of the passage of such statutes was varied. Not only was foreclosure barred if interest and taxes were paid, but, for the most part, deficiency judgments were rarely secured.

Most moratorium statutes affected only mortgages in existence at the date of passage of the particular moratorium law. In New York, however, the Legislature, encouraged by the reactions of the Supreme Court, passed an act providing for a "permanent" moratorium. That act, which became effective Apr. 7, 1938, provides that in any application for a deficiency judgment thereafter made (on any nonmoratorium mortgage) the value of the property shall be set off against the debt. This has greatly affected the investment problem of the companies, for in a close case they may no longer, on foreclosure, look to the bond unless they can persuade the court that the property is worth less than the debt. The "permanent" moratorium was held unconstitutional by the New York Court of Appeals, but this decision was reversed by the United States Supreme Court.

*Receiverships.* In view of the exceedingly unfavorable conditions just described, it was to be expected that some of the weaker and more poorly managed companies would find themselves in financial difficulties. The actual record, however, was extraordinarily good. Out of about 350 companies, about 20 were placed in the hands of receivers. Of these none was in the first rank in size, and only one could be considered a large company. The insurance involved amounted to only a little over 1 per cent of the total insurance in force in all companies. This record of strength and safety under the most adverse conditions is probably unequalled by any other business or industry.

The business of the few companies that went into receivership was reinsured by other solvent companies under agreements which, in general, provide for payment of death claims in full (at least for a period of years) but with provision for deductions—corresponding to the extent of deficiency—in event of surrender. These liens have, in most cases, gradually been reduced or extinguished as surplus earnings accumulated. The actual loss to policyholders has thus been very small.

The reason for failure was, in most cases, unwise investments and particularly an insufficient degree of diversification. This is a fault which is likely to be found only in companies of the smallest size. No company that has adhered to elementary and fundamental principles of investment has been involved in any financial difficulty.

*RFC Loans.* Life-insurance companies were included among the classes of corporations that, during this period, could borrow money from the Reconstruction Finance Corporation (RFC). The fact that some of them did so has been viewed in some quarters as a sign of weakness and a reason for criticism. Such a view is unjustified. No loans were made except on adequate collateral security, and the only purpose of making loans was to protect policyholders against losses which would have been incurred through sale of securities at an unfavorable time. None of the principal companies found it necessary to borrow money from the corporation.

**1935 to 1955.** The annual increase in the total amount of insurance in force in United States companies which was interrupted by the Depression was resumed in 1935 and has continued up to the present time, the total reaching an all-time high as of Dec. 31, 1955, of approximately \$390 billion.

Important events in this period affecting life insurance include (1) the passage of the Social Security Act in 1935; (2) the federal investigation of the life-insurance business undertaken by the Securities and Exchange Commission (SEC) in connection with the study of concentration of economic power by the Temporary National Economic Committee (TNEC) appointed by the President in 1935; (3) the Second World War and the Korean War; (4) the decision of the United States Supreme Court in the *South-Eastern Underwriters* case in 1944, which reversed the precedents of 75 years by holding that insurance is commerce;<sup>10</sup> and (5) the general adoption of a new mortality table for premiums and reserves and the passage of the standard valuation and nonforfeiture laws.<sup>11</sup>

*The Social Security Act.* The Social Security Act, signed by the President on Aug. 14, 1935, established for certain classes of em-

<sup>10</sup> See Chap. 19.

<sup>11</sup> See Chaps. 5, 6, 8.

ployed persons a contributory system of old-age pensions based on earnings and provided for federal cooperation in state plans for unemployment insurance and for the extension of federal aid available to the states in connection with various plans of public assistance to the needy.

In 1939 the Act was amended to provide survivors' benefits (to in effect, created a very large volume of government life insurance for those in "covered employment." After the 1939 amendment the system was known as "Old-age and Survivors Insurance" (OASI).

Further amendments have been enacted by Congress which have (1) increased the scale of benefits payable and (2) expanded the scope of the Act by bringing in some of those classes of workers previously excluded. The most important of these were the self-employed, including full-time soliciting agents of insurance companies.

The original and amended acts provide for the financing of the benefits by payroll taxes on an increasing scale, part payable by the employee and part by the employer. Until 1950 the automatic increases in the tax rates provided for in the Act did not take effect but were postponed by special legislation.

Taxes are paid into a special trust fund out of which all benefits and expenses of administration are paid. Up to the present time there has been a substantial excess of taxes over disbursements (which is normal in the early years in any "insurance" scheme for providing deferred annuities or survivors' benefits). The excess is borrowed by the government which issues bonds to the trust fund, bearing interest at 3 per cent. There may be considerable doubt about whether such a plan really constitutes insurance, in the sense of providing benefits through the collection of premiums (taxes) of equivalent worth. There is, in fact, little or no relationship between the present value of the taxes collected (or which were to have been collected) and the present value of benefits, while the amount in the trust fund is far short of the actuarial reserve which would be required to meet the benefits. The soundness of the scheme would appear to rest on the taxing and borrowing power of the federal government rather than on the actuarial sufficiency of "premiums" and "reserves."



The Social Security Act, far from restricting the volume of private insurance, as it might have been supposed it would do, has operated as a stimulus to its expansion. The relatively small maximum benefits payable and more particularly the absence of a provision for widow's pension prior to age sixty-two (unless there are children under eighteen) present an obvious and legitimate opportunity for supplementing social-security benefits with life insurance or annuities in private companies.

*TNEC Investigation.* In the words of its final report,<sup>12</sup> the TNEC "made the most extensive study of life insurance since the well-known Armstrong investigation . . . in 1906."

It should be observed that in 1938 there were no such conditions prevailing as existed prior to 1907 that seemed to require a general investigation of the operation of the life-insurance business. Furthermore, there is nothing in the President's letter of April, 1938, to Congress (resulting in the appointment of the TNEC) that appears to suggest the need for an investigation of life insurance except to the extent that it involved the question of concentration of economic power. The only specific reference to life insurance in that letter reads as follows:

The tremendous investment funds controlled by our great insurance companies have a certain kinship to investment trusts in that these companies invest as trustees the savings of millions of our people. The Securities and Exchange Commission should be authorized to make an investigation of the facts relating to these investments with particular relation to their use as an instrument of economic power.

The SEC undertook such an investigation. However, its inquiries were extended far beyond the companies' investments and their relation to the concentration of economic power and reached into such fields, apparently remote from the subject in hand, as the training, education, and compensation of agents; the comparative lapse rates and costs of ordinary, industrial, and savings-bank insurance; the basis of reserves for annuities; the different types of policy forms; the relative contributions to surplus by different lines

<sup>12</sup> *Final Report and Recommendations of the Temporary National Economic Committee,*

of business; and many other aspects of the technical operation of the companies.

Unlike the Armstrong investigation, which was conducted on an eminently impartial basis with the obvious purpose of determining the facts, whether favorable or unfavorable, and in which the companies had every opportunity to present their position, the SEC investigation was, in the opinion of the author, conducted largely in an atmosphere of antagonism to the companies. That this was so is evidenced by the fact that, at the close of the hearings, a substantial group of important companies submitted a joint statement constituting a rebuttal of much of the unfavorable testimony taken by the committee and which the companies felt they had been given no adequate opportunity to answer. This statement, which was published separately as Monograph 28A,<sup>13</sup> consists of comments on Monograph 28, entitled *Study of Legal Reserve Life Insurance Companies*. No reference is made to it in the final report of the TNEC.

The recommendations regarding life insurance contained in the final report of the TNEC and made "for the consideration of the several states" may be briefly summarized as follows:

(1) State insurance commissioners should be appointed on the basis of qualification, should have a longer tenure of office, should have no duties other than regulation of insurance, and should have larger salaries.

(2) The budget and staff of qualified personnel of state insurance departments should be increased. Companies should not be required to pay the salaries of the state examiners, at least directly. Examination procedures should be strengthened and extended.

(3) There should be closer regulation of agency practices, including training, qualification of agents, and methods of compensation, as well as closer scrutiny of the competence and activities of company managements.

(4) The number of policy forms should be reduced and greater attention given to standardized forms or policy provisions.

<sup>13</sup> Senate Committee print, 76th Cong., 3d Sess.

(5) Life insurance should be conducted on a competitive basis. No intercompany agreements that would prevent sound development should be permitted.

(6) A fundamental change in the conduct of industrial insurance should be made.

In addition, one member of the SEC recommended that life-insurance companies be permitted to invest a limited and small percentage of their funds in common stocks. The SEC also recommended a federal statute to prevent the selling of insurance through the mails in states to which a company has not been admitted, and an amendment of the National Bankruptcy Act to enable a state commissioner to apply to the appropriate United States district court to bring about the liquidation or reorganization of a life-insurance company.

Space does not permit a discussion of the foregoing recommendations. It will be sufficient to say that, so far as the operations of the companies were concerned, the investigation, in the opinion of the author, except in one or two isolated instances affecting small and unimportant companies, revealed nothing discreditable to the business and justified no important adverse reflection on the manner in which it is conducted.

*Second World War and Korean War.* At the time of the entry of the United States into the Second World War (1941) practically all policies in force were, as in 1917, free from any restriction regarding military or naval service. Because of the large volume of new business which had been written for many years prior to 1940 and the much greater total insurance in force, there was a much larger amount of outstanding insurance than in 1917 on the lives of persons of military age. Also, the number who volunteered or were drafted into the services was much greater than in the First World War. The total amount of claims owing to war-caused deaths in the period 1940 to 1945 that were not excluded by war clauses or covered by extra premiums was thus very substantial, amounting roughly to between 5 and 10 per cent of the amount of all death claims. This meant that, at the lower ages, the rates of mortality experienced were much higher than normal. However, the addi-

tional claims owing to the war were very largely offset by an extremely favorable general mortality experience during the war years. Most companies showed, in fact, no increase in the *aggregate* ratio of actual to expected mortality, so that the total mortality gains were not significantly diminished, if at all.

The war had more far-reaching effects on the operation of life insurance because of its effect on the companies' investments. The greater part of all funds available for investment during the war was invested in United States government bonds at interest rates substantially below those being earned on other assets. The previously existing downward trend of the interest rate was thus accelerated, adversely affecting dividends and the cost of insurance to policyholders.

As already explained,<sup>14</sup> a very large proportion of all the policies issued during the Second World War excluded war risk by the inclusion of a war clause of either the results or status type. Only a relatively small proportion of policies were issued on the basis of full coverage and subject to payment of an extra premium.

After the Second World War practically all companies removed the war restrictions contained in policies in force and resumed the issue of new policies without any limitations about war service. The situation at the outbreak of the Korean War (June, 1950) was, therefore, similar to that in 1941. However, during the Korean War, there was no general adoption of war clauses for all new policies. This was an "undeclared" war, and it was felt that hostilities would be confined to a limited area and that the war hazards and losses would be relatively small. Some companies did resume the use of war clauses, but others relied on "selection" and limitation of the amount of insurance which would be issued to those who might be subject to the war hazard.

**National Service Life Insurance.** As in the case of the First World War, life insurance was made available by the federal government to all those in service in the Second World War. This was called National Service Life Insurance (NSLI). The total volume of such insurance in force before the termination of the war was about \$140 billion, or about  $3\frac{1}{2}$  times the amount of war risk in-

<sup>14</sup> See Chap. 8.

insurance issued in the First World War and an amount approximately equal to the total amount of life insurance then in force in all the companies combined. After the war, as in the case of war risk insurance, the greater part of the insurance issued lapsed—in spite of strenuous efforts by the government, assisted by the companies, to induce the owners of such insurance to keep it in force.

There were some important differences between NSLI and the war risk insurance of the First World War. The original plan of insurance under NSLI was 5-year term insurance (instead of yearly-renewable term insurance). Policies could be converted to a permanent plan at any time after 1 year. In 1945, as a conservation measure, the original 5-year term was extended to 8 years without increase in premiums.

An important difference is that, whereas under war risk insurance the contribution of the government (i.e., the taxpayers) toward mortality was limited to the excess of total claims over total premiums and interest, under NSLI (and USGLI) all claims traceable to the hazards of war, as well as all expenses of administration, are paid by the government from special appropriations. This has an important bearing on *dividends* (all government insurance, as described above, being on a participating basis). Under war risk insurance, losses exceeded premiums plus interest so that there could be no dividends. Dividends have been paid on USGLI since 1921 on plans of insurance showing a surplus. Payment of dividends on NSLI began in 1950 when a cash dividend covering the whole duration of the policy from date of issue up to 1948 was paid. Naturally, these special "initial dividends" were, in most cases, quite large in relation to one annual premium and are not comparable (as a comparison of cost) with the regular annual dividends of the companies.

After the Second World War the government continued to issue NSLI both to service personnel and to veterans in peacetime. This continued up to and after the outbreak of the Korean War. Considerable criticism of such activities was expressed, which resulted in the passage by Congress, in 1951, of the servicemen's indemnity and insurance acts. These acts terminated the future sale of both

NSLI and USGLI and substituted a new system of "free indemnities." This system was made retroactive to June, 1950, the date of the outbreak of hostilities in Korea. The new laws provided for payment of \$10,000 (less any other government life insurance payable) to members of the armed forces in event of death while on active service or within 120 days of termination of such service.

All government life insurance is now administered by the Insurance Division of the Veterans Administration. The work of the Insurance Division has been largely decentralized by the establishment of district and regional offices. Records are maintained in the district offices, which are organized along the lines of the central office for the collection of premiums and the payment of claims. The regional offices furnish information and miscellaneous service to veterans in regard to government life insurance.

**Soldiers' and Sailors' Civil Relief Act.** By its provisions, the Soldiers' and Sailors' Civil Relief Act of 1940 terminated 6 months after the official end of the war (i.e., in July, 1947) but was reinstated in 1948 by the Selective Service Act and is still in effect. This Act makes provision for preventing the lapse or forfeiture of certain life-insurance policies issued by private companies while the policyholder is in the military or naval service and for a period of 2 years after the expiration of such service.

The government guarantees the payment of premiums, and the Act provides, in effect, for a temporary suspension of premium payments by the policyholder. If the policyholder desires to keep his policy in force after the period of suspension, it will be necessary for him to pay any unpaid premiums that became due during that period. In event of death during the period of suspension the unpaid premiums will be deducted, together with interest thereon at the policy-loan rate, from the proceeds of the policy. If the policy is still in force at the expiry of the period of suspension and if the unpaid premiums and interest thereon (at loan rate) are not paid, the amount due is treated as a policy loan. If this exceeds the cash value, the policy terminates, and the government reimburses the company for the difference between the cash value and the indebtedness. Dividends, if any, must be applied in reduction of pre-

mium, and no prior dividend accumulations or other amounts may be withdrawn without the consent of the Veterans Administration.

Application must be made by the policyholder to the Veterans Administration to have a policy placed under the protection of the Act. The insured must be in military or naval service at the time of application.

The benefits of the Act are available only up to a total amount of insurance of \$10,000, and the Veterans Administration may select the policies to which it will apply where the insurance exceeds that amount. The original act limited the amount to \$5,000.

The Act does not apply to a policy containing any restriction or limitation on the amount of insurance payable while in service, nor if the policy provides for any extra premium for such service, nor to any policy against which there is outstanding indebtedness equal to or greater than 50 per cent of the surrender value.

**Conclusion.** Life insurance is certainly one of the greatest and most beneficial economic structures the world has ever seen. From small and unscientific beginnings, providing uncertain indemnities in event of death for a negligible number of people, it has become the means whereby many millions provide for the financial security of their dependents or for their own old age. In addition it provides a systematic and reliable means of saving and performs many other useful functions, such as supplying capital to industry.

At one time (1905) there were fears that some of the companies were growing too large and that this might lead to abuse of power. Limitations on the growth of the companies were thought to be necessary. Such fears were groundless and no longer exist. Today, many of the principal companies in the United States are far larger than the largest companies of 1905. The total volume of life insurance in force and the total assets of the companies are now both about 30 times what they were in 1905. No one is, or need be, alarmed by such growth. Apart from the government itself, there is nothing safer than a well-managed life-insurance company. No business is more closely regulated and supervised.

With increasing population and the expansion of the economy the growth of life insurance will and should continue. Apart from such normal and automatic factors, it is true that even in the

United States, which has the highest per capita amount of life insurance in the world, the average family, which has insurance of less than 2 years' income, may still be regarded as underinsured. There are, of course, other forms of savings and investments but none which can create, as life insurance does, an immediate and adequate estate in event of death. That is its fundamental purpose.



# Mathematical Demonstration of Net Premiums and Reserves

**1. Interest Element.** *Amount.* If the rate of interest per annum per unit is denoted by  $i$  (i.e., 100  $i$  per cent), then 1 unit invested for 1 year will amount to  $(1 + i)$ . If this latter amount is reinvested for a second year, the total accumulated amount at the end of the second year will be  $(1 + i)^2$ , since each unit invested amounts to  $(1 + i)$  and therefore  $(1 + i)$  units invested will amount to  $(1 + i) \times (1 + i) = (1 + i)^2$ . Generally, the accumulated amount in  $n$  years will be  $(1 + i)^n$ . For example, the amount of 1 invested for 1 year at 3 per cent is 1.03; for 2 years  $(1.03)^2$ , or 1.0609; and for  $n$  years  $(1.03)^n$ .

*Present Value.* Since 1 amounts to  $(1 + i)^n$  in  $n$  years, 1 must be the *present value* at rate  $i$  per unit of  $(1 + i)^n$  due in  $n$  years; and by proportion, or by dividing both by  $(1 + i)^n$ , the present value of 1 due in  $n$  years is therefore  $1/(1 + i)^n$ . This latter quantity is denoted by  $v^n$ .

For example, the present value at 3 per cent of 1 due in 1 year is  $v = 1/1.03$ , or 0.9709; of 1 due in 2 years,  $v^2 = 1/(1.03)^2$ , or 0.9426; and so on.

**2. Mortality Element.** The fundamental column of the mortality table—the rate of mortality—is denoted by  $q_x$ , which may therefore be defined as the proportion of persons of age  $x$  who die in a year.

If  $l_x$  is defined as the number of persons who attain the precise age of  $x$  and  $d_x$  denotes the number of persons out of  $l_x$  who die before they attain age  $(x + 1)$ , then

$$d_x = l_x - l_{x+1} \quad (1)$$

and

$$q_x = \frac{d_x}{l_x} \quad (2)$$

both of which relations may easily be verified from Table 4-2.

**3. Net Single Premiums.** If  $l_x$  persons each effect a 1-year-term policy of 1, the number of death claims payable (presumed to be payable at the end of the year) will be  $d_x$ .

The present value of these claims is  $vd_x$ , and the net premium which each of the  $l_x$  persons should pay is therefore

$$\frac{vd_x}{l_x} \text{ (or } vq_x) \quad (3)$$

If the insurance is to continue for  $n$  years (an  $n$ -year term insurance) instead of 1 year, the single premium required from each will be

$$\frac{vd_x + v^2d_{x+1} + v^3d_{x+2} + \dots + v^nd_{x+n-1}}{l_x} \quad (4)$$

since  $d_x$  claims will be paid the first year,  $d_{x+1}$  the second, and so on, up to the  $n$ th year, when  $d_{x+n-1}$  claims will occur.

If the insurance is to continue for life, the single premium will be

$$\frac{vd_x + v^2d_{x+1} + v^3d_{x+2} + \dots}{l_x} \quad (5)$$

Again, if the insurance is for  $n$  years and a payment of 1 is also to be made to each survivor at the end of  $n$  years, i.e., if the insurance is an  $n$ -year endowment insurance, the single premium will be

$$\frac{vd_x + v^2d_{x+1} + v^3d_{x+2} + \dots + v^nd_{x+n-1} + v^nl_{x+n}}{l_x} \quad (6)$$

**4. Commutation Columns.** The actual calculation of these and other premiums is very greatly simplified by an ingenious device.

It will be clear from a consideration of formulas (4), (5), and (6) that the calculation by these formulas of any required single premium involves a large number of multiplications,  $v$  by  $d_x$ ,  $v^2$  by  $d_{x+1}$ , and so on, and that these multiplications will be *different for every age* at which the premium is to be calculated.

If, however, we first multiply both numerator and denominator of the above expressions by  $v^x$ , we shall obtain, for formula (4),  $n$ -year term insurance,

$$\frac{v^{x+1}d_x + v^{x+2}d_{x+1} + v^{x+3}d_{x+2} + \dots + v^{x+n}d_{x+n-1}}{v^xl_x} \quad (7)$$

for formula (5), whole life insurance,

$$\frac{v^{x+1}d_x + v^{x+2}d_{x+1} + v^{x+3}d_{x+2} + \dots}{v^xl_x} \quad (8)$$

and for formula (6),  $n$ -year endowment insurance,

$$\frac{v^{x+1}d_x + v^{x+2}d_{x+1} + v^{x+3}d_{x+2} + \dots + v^{x+n}d_{x+n-1} + v^{x+n}l_{x+n}}{v^xl_x} \quad (9)$$

In all these expressions it will be seen that the index of  $v$  when multiplied by  $d$  is always greater by unity than the age and that when multiplied by  $l$  the index of  $v$  is always the same as the age.

One set of multiplications ( $v^{t+1}d_t$  and  $v^t l_t$  for all values of  $t$ ) may therefore be made which will be available for the calculation of premiums at all ages.

If now we write

$$v^{x+1}d_x = C_x \quad (10)$$

and

$$v^x l_x = D_x \quad (11)$$

we may rewrite formulas (7), (8), and (9) as follows:

For formula (7)

$$C_x + \frac{C_{x+1}}{D_x} + \frac{C_{x+2}}{D_x} + \cdots + \frac{C_{x+n-1}}{D_x} \quad (12)$$

For formula (8)

$$\frac{C_x}{D_x} + \frac{C_{x+1}}{D_x} + \frac{C_{x+2}}{D_x} + \cdots \quad (13)$$

For formula (9)

$$\frac{C_x + C_{x+1} + C_{x+2} + \cdots + C_{x+n-1}}{D_x} + D_{x+} \quad (14)$$

and if we write

$$M_x = C_x + C_{x+1} + C_{x+2} + \cdots \quad (15)$$

we shall have the following concise expressions for net single premiums:

For  $n$ -year term insurance

$$M_x - M_{x+n} \quad (\text{denoted by } A_{x:\overline{n}|}^1) \quad (16)$$

For whole life insurance

$$\frac{M_x}{D_x} \quad (\text{denoted by } A_x) \quad (17)$$

For  $n$ -year endowment insurance

$$M_x - \frac{M_{x+n}}{D_x} + \frac{D_{x+n}}{D_x} \quad (\text{denoted by } A_{x:\overline{n}|}) \quad (18)$$

The values of  $C$ ,  $D$ , and  $M$  can be calculated for all ages and tabulated. Such tables are known as "commutation columns."

**5. Net Annual Premiums.** It is necessary as a preliminary to obtain the present value of a *life annuity-due*, i.e., an annuity to continue for life with first payment made immediately. If  $l_x$  persons each pay a life annuity-due of \$1, the total present value of the  $l_x$  dollars paid in at once, the dollars paid by the survivors 1 year hence, and so on, will be

$$l_x + v l_{x+1} + v^2 l_{x+2} + \cdots$$

The value of such an annuity in respect of *each* person is therefore

$$\frac{l_x + v l_{x+1} + v^2 l_{x+2} + \cdots}{l_x} \quad (19)$$

which is denoted by  $\ddot{a}_x$ , the present value of a dollar now and a dollar at the end of every year survived by a person now aged  $x$ . If we multiply both numerator and denominator of formula (19) by  $v^x$ , we shall have

$$\begin{aligned} a_x &= \frac{v^x l_x + v^{x+1} l_{x+1} + v^{x+2} l_{x+2} + \cdots}{v^x l_x} \\ &= \frac{D_x + D_{x+1} + D_{x+2} + \cdots}{D_x} \end{aligned} \quad (20)$$

and if we form a new "commutation column"  $N_x$  such that

$$N_x = D_x + D_{x+1} + D_{x+2} + \cdots \quad (21)$$

we shall have

$$\ddot{a}_x = \frac{N_x}{D_x} \quad (22)$$

*Ordinary-life Policy.* If we denote the net annual premium for an ordinary-life policy at age  $x$  by  $P_x$ , then, since the present value of a life annuity-due of  $P_x$  must obviously be equal to the net single premium for a whole life insurance, we shall have

$$P_x \times \ddot{a}_x = A_x$$

whence

$$P_x = \frac{A_x}{\ddot{a}_x} = \frac{M_x}{N_x} \quad (23)$$

*Limited Annual Premiums.* Referring back to formula (20) it is evident that the value of a temporary annuity-due of 1 to continue only until  $n$  payments have been made or until prior death is

$$\begin{aligned} \ddot{a}_{x:\overline{n}|} &= \frac{D_x + D_{x+1} + D_{x+2} + \cdots + D_{x+n-1}}{D_x} \\ &= \frac{N_x - N_{x+n}}{D_x} \end{aligned} \quad (24)$$

If  ${}_n P_x$  is the annual premium limited to  $n$  payments for a whole life insurance, then

$${}_n P_x \times \ddot{a}_{x:\overline{n}|},$$

the present value of all premiums must also be equal to the net single premium, so that

$${}_n P_x \frac{N_x - N_{x+n}}{D_x} = A_x - D_x$$

and

$${}_n P_x = \frac{A_x}{\ddot{a}_{x:\overline{n}|}} \quad (25)$$

$${}_n P_x = \frac{M_x}{N_x - N_{x+n}} \quad (26)$$

The reader will easily be able in the same way to show that the net annual premium for an  $n$ -year term insurance is

$$P_{x:n}^1 = \frac{M_x - M_{x+n}}{N_x - N_{x+n}} \quad (27)$$

and the net annual premium for an  $n$ -year endowment insurance is

$$P_{x:n} = \frac{A_{x:n}}{N_x - N_{x+n}} = \frac{M_x - M_{x+n} + D_{x+n}}{N_x - N_{x+n}} \quad (28)$$

**6. Reserves.** (Net-level-premium plan.) Regarded *prospectively*, the reserve for any policy at any time is the present value of the remaining insurance at the attained age *less* the present value of the net premiums still to be received.

For an ordinary-life policy by net annual premiums of  $P_x$  effected  $n$  years ago at age  $x$ , the insured now being  $(x+n)$  years old, the present value of the remaining insurance is  $A_{x+n}$  and of the remaining premiums  $P_x a_{x+n}$ . The reserve (or "value") of the policy is therefore

$$A_{x+n} - P_x a_{x+n} \quad (29)$$

On the same principles it will be evident that the reserve at the end of  $n$  years of a  $t$ -payment-life policy effected at age  $x$  is

$$A_{x+n} - {}_tP_x \dot{a}_{x+n:t-n} \quad (30)$$

if  $n$  be less than  $t$  and

$$A_{x+n} \quad (31)$$

if  $n$  be greater than  $t$ , that is, if the policy be fully paid up, no more premiums being payable; also, that the reserve at the end of  $n$  years of a  $t$ -year endowment insurance effected at age  $x$  is

$$A_{x+n:t-n} - P_{xi} | a_{x+n:t-n} \quad (32)$$

Regarded *retrospectively*, the reserve on an individual policy is, in all cases, the accumulation of all net premiums received *less* the accumulation of all claims paid, divided by the number of survivors.

If  $l_x$  persons each effect an ordinary-life policy at an annual premium of  $P_x$ , then

$l_x$  persons pay a first premium  
 $l_{x+1}$  persons pay a second premium  
 $l_{x+2}$  persons pay a third premium  
 etc.

and  $l_{x+n-1}$  persons pay an  $n$ th premium

The accumulated amount of all net premiums received up to the end of  $n$  years (ignoring death claims for the present) is therefore

$$P_x [l_x(1+i)^n + l_{x+1}(1+i)^{n-1} + l_{x+2}(1+i)^{n-2} + \cdots + l_{x+n-1}(1+i)]$$

and if this amount were divided equally among the surviving  $l_{x+n}$  policyholders, the share of each would be

$$\frac{P_x l_x (1+i)^n + l_{x+1} (1+i)^{n-1} + l_{x+2} (1+i)^{n-2} + \dots + l_{x+n-1} (1+i)]}{l_{x+n}}$$

or, multiplying numerator and denominator by  $v^{x+n}$  (and remembering that  $v = 1/(1+i)$ ),

$$\frac{P_x [v^x l_x + v^{x+1} l_{x+1} + v^{x+2} l_{x+2} + \dots + v^{x+n-1} l_{x+n-1}]}{v^{x+n} l_{x+n}} = P_x \frac{N_x - N_{x+n}}{D_{x+n}} \quad (33)$$

But the whole of this amount is not on hand, of course, since claims have been paid each year as follows:

$$\begin{aligned} d_x & \text{ at the end of 1 year} \\ d_{x+1} & \text{ at the end of 2 years} \\ d_{x+2} & \text{ at the end of 3 years} \\ & \text{etc.} \\ d_{x+n-1} & \text{ at the end of } n \text{ years} \end{aligned}$$

and these claims similarly accumulated would amount at the end of  $n$  years to

$$d_x (1+i)^{n-1} + d_{x+1} (1+i)^{n-2} + \dots + d_{x+n-2} (1+i) + d_{x+n-1}$$

which would reduce the share of each survivor as given in formula (33) by

$$\frac{d_x (1+i)^{n-1} + d_{x+1} (1+i)^{n-2} + \dots + d_{x+n-2} (1+i) + d_{x+n-1}}{l_{x+n}}$$

or, upon multiplying numerator and denominator by  $v^{x+n}$ , by

$$\frac{v^{x+1} d_x + v^{x+2} d_{x+1} + \dots + v^{x+n-1} d_{x+n-2} + v^{x+n} d_{x+n-1}}{v^{x+n} l_{x+n}}$$

i.e., by

$$\frac{M_x - M_{x+n}}{D_{x+n}} \quad (34)$$

The net "share" or reserve value is therefore, from (33) and (34),

$$\frac{P_x (N_x - N_{x+n}) - (M_x - M_{x+n})}{D_{x+n}} \quad (35)$$

It can easily be shown that this value is the same as that obtained by the prospective method, formula (29). From formula (23)

$$P_x = \frac{M_x}{N_x}$$

$$\therefore P_x N_x = M_x$$

Substituting  $M_x$  for  $P_x N_x$  in formula (35) the latter becomes

$$\frac{M_{x+n} - P_x N_{x+n}}{D_{x+n}} = A_{x+n} - P_x a_{x+n}$$

which is formula (29).

The formulas for other classes of policies can be worked out on similar principles. It should be noted, however, that, during the premium-paying period, formula (35) holds for any class of policy if the appropriate net premium be substituted for  $P_x$ , provided the premium does not vary during the premium-paying period.

# Specimen Reinsurance Agreement

## FACULTATIVE REINSURANCE AGREEMENT (Yearly-renewable-term plan)

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_ 19—, between the \_\_\_\_\_ LIFE-INSURANCE COMPANY, a corporation organized under the laws of the state of \_\_\_\_\_, hereinafter referred to as the "Ceding Company," and the \_\_\_\_\_ REINSURANCE COMPANY, a corporation organized under the laws of the state of \_\_\_\_\_, hereinafter referred to as the "Reinsurance Company," WITNESSETH AS FOLLOWS:

### **Life Coverage**

ARTICLE I. Application for reinsurance on any life risk submitted to the Ceding Company under direct application may be submitted to the Reinsurance Company on the preliminary application form attached hereto (Exhibit A). Copies of all papers and all the Ceding Company's information about the insurability of the risk shall accompany the application.

### **Benefits**

An application may also include total-and-permanent-disability benefits, payor benefits, and additional accidental-death benefits.

### **Acceptance of Risk**

ARTICLE II. Acceptance of an application for reinsurance upon any risk submitted by the Ceding Company to the Reinsurance Company shall be optional with the Reinsurance Company. The Reinsurance Company shall promptly notify the Ceding Company of its decision thereon, and, if the Reinsurance Company accepts the risk, the Reinsurance Company's liability shall commence simultaneously with that of the Ceding Company.

### **When Liability Ceases**

ARTICLE III. In all reinsurances the liability of the Reinsurance Company shall cease when the liability of the Ceding Company ceases.



<b>Cession Form</b>	ARTICLE IV. After the first premium has been received by the Ceding Company on a case accepted by the Reinsurance Company, the Ceding Company shall send in duplicate a reinsurance cession, in substantial agreement with the form attached hereto (Exhibit B). The original of the cession form shall be duly signed and promptly returned by the Reinsurance Company.
<b>Policy Forms</b>	ARTICLE V. The Ceding Company shall forward to the Reinsurance Company a copy of the form of contract issued to the insured, unless such copy shall have been previously filed with the Reinsurance Company.
<b>Plan of Reinsurance</b>	ARTICLE VI. Reinsurance of life risks under this agreement shall be upon the yearly-renewable-term plan for the amount at risk under the policy reinsured. For the purpose of this agreement, the amount at risk is defined as the difference, taken to the nearest dollar, between the face amount of the sum reinsured and the terminal reserve corresponding to that face amount on the basis of the original policy.
<b>Premium Rates:</b> <b>Life</b>	ARTICLE VII. Premiums for reinsurance ceded hereunder are guaranteed at net rates on the appropriate multiples of the C.S.O. Table, at $2\frac{1}{2}$ per cent. However, until further notice, first-year and renewal premiums shall be at the rates given in the schedules attached hereto (Exhibit C). Where the classification of the original policy shows a flat extra premium, the premiums shall be at the rates provided above, plus the flat extra rate charged under the original policy for the face amount reinsured. However, on all such flat extra premiums for reinsurance, except temporary extra premiums (for 5 years or less) the Reinsurance Company shall allow commissions of _____ per cent (____%) the first year and _____ per cent (____%) for each renewal year.  On temporary extra premiums (for 5 years or less) the Reinsurance Company shall allow commissions of _____ per cent (____%) for each year.
<b>Disability-Payor Benefits</b>	The premium to be charged by the Reinsurance Company for the reinsurance of disability benefits and for payor benefits on juvenile policies shall be for the first policy year _____ per cent (____%) and for renewal years _____ per cent (____%) of the premium charged by the Ceding Company for the amount reinsured.
<b>Double Indemnity</b>	The premium to be charged by the Reinsurance Company for the reinsurance of additional accidental-death benefits on risks rated as standard for such benefits shall be at the rate of

(—¢) per \$1,000 for the first policy year and .  
 (\$—) per \$1,000 for each renewal policy year during the  
 continuance of this coverage. Where double-indemnity benefits  
 are issued to lives substandard for these benefits, the rates of  
 premium shall be as follows:

<i>Classification</i>	<i>First-year rate</i>	<i>Renewal rate</i>
1½ times standard		
2 times standard		
3 times standard		
4 times standard		
5 times standard		

### **Tax Credits**

ARTICLE VIII. Except in those instances where the Reinsurance Company is taxed directly and independently on premiums collected by it from the Ceding Company, the Reinsurance Company shall reimburse the Ceding Company, at the exact tax rate on reinsurance premiums paid to such states as do not allow reinsurance premiums paid to the Reinsurance Company by the Ceding Company as a deduction in the tax statement of the Ceding Company. By mutual agreement, such tax reimbursement may be at an average tax rate.

### **Experience Refund**

ARTICLE IX. Reinsurances ceded pursuant to the reinsurance agreement between the Ceding Company and the Reinsurance Company shall be subject to an experience refund payment and the amount and manner of apportionment shall be determined solely by the Reinsurance Company.

### **Payment or Refund of Reinsurance Premiums**

ARTICLE X. Reinsurance premiums shall be paid annually, but if a reinsurance policy is terminated or reduced in accordance with the provisions of this agreement, the Reinsurance Company shall refund to the Ceding Company the unearned reinsurance premium.

Promptly after the close of each calendar month the Reinsurance Company shall send to the Ceding Company a list showing premiums for all outstanding new reinsurances upon which cessions have been received by the Reinsurance Company and renewal premiums for all renewal reinsurances falling due within such month. The Ceding Company shall verify and return within a reasonable time such list to the Reinsurance Company with a remittance covering first-year premiums for all new reinsurances upon which premiums shall have been paid to the Ceding Company and renewal premiums on all renewal reinsurances falling due within the month, together with any adjustments made necessary by changes in reinsurances.

**Reductions**

ARTICLE XI. If on a life reinsured hereunder any portion of the insurance carried by the Ceding Company shall be terminated, the amount of reinsurance carried by the Ceding Company on that life shall be reduced by a like amount as of the date and time of the termination of the original insurance. Should the amount of insurance terminated exceed the total amount of reinsurance carried by the Ceding Company on the life, all such reinsurance shall be terminated.

The reduction shall be applied first to the reinsurance directly applicable to the Ceding Company's policy which is reduced or canceled, the reinsurance of the Reinsurance Company being reduced by an amount which shall be the same proportion of the amount of insurance terminated that the Reinsurance Company's reinsurance bore to the total amount of reinsurance under that particular policy.

If any portion of the terminated insurance was retained by the Ceding Company, a reduction equal to the amount of such retention shall be made in the reinsurance in force under all other policies on the life carrying the same mortality rating and involving the same supplemental benefits, if any, each reinsurer sharing in the reduction according to its proportion of that reinsurance on the life not directly applicable to the policy of the Ceding Company which was terminated. In interpreting this paragraph, policies issued concurrently upon the same plan and at the same mortality rating shall be considered as one policy, and when the terminated policies contain disability, double-indemnity, or other supplementary benefits, the reductions shall be confined to the reinsurance policies containing the same benefits, the principle to be observed being always that the retention of the Ceding Company is to be maintained unchanged.

It is agreed, however, that in no case shall the Ceding Company be required to assume a risk for an amount in excess of its regular retention limit for the age at issue and mortality rating of the policy under which reinsurance is being terminated. If the cancellation of reinsurance in accordance with the above rules would have this result, the amount of reinsurance to be canceled shall be such that the Ceding Company shall be placed upon the risk for its regular limit of retention.

**Reinstatement**

ARTICLE XII. Should a lapsed or surrendered insurance policy be reinstated, in accordance with its terms and the rules of the Ceding Company, the reinsurance under such policy shall be reinstated automatically. Notice of reinstatement shall be mailed to the Reinsurance Company within a reasonable time

after the insurance has been reinstated by the Ceding Company. Copies of the reinstatement papers shall be furnished to the Reinsurance Company. Premiums and interest on reinstated reinsurance shall be payable only to the extent that the Ceding Company is entitled to premiums and interest on such insurance.

**Claims**

ARTICLE XIII. In the case of a claim under a policy reinsured, whether the claim is under the strict policy conditions or under a compromise or otherwise, the settlement made by the Ceding Company shall be unconditionally binding on the Reinsurance Company, but if the whole risk in any particular case is carried by the Reinsurance Company, or if, in a claim involving additional accidental-death benefits, the amount of such benefits reinsured by the Reinsurance Company exceeds the amount of such benefits retained by the Ceding Company, the Reinsurance Company shall be consulted before the admission or acknowledgment of the claim is made by the Ceding Company.

The Ceding Company shall furnish the Reinsurance Company with copies of the proofs of claim, together with any other information the Ceding Company may possess in connection with the claim. Payment in settlement of the reinsurance under a claim approved and paid by the Ceding Company for a life reinsured hereunder shall be made by the Reinsurance Company upon receipt of the claim papers.

The Reinsurance Company shall share in the expense of any contest of a claim in proportion to the net sum at risk of the Reinsurance Company and the Ceding Company and shall share in the total amount of any saving in the same proportion. Compensation of salaried officers and employees of the Ceding Company shall not be deemed claim expense.

**Age  
Adjustment**

In the event of an increase or reduction in the amount of the Ceding Company's insurance on any policy reinsured hereunder because of an overstatement or understatement of age being established after the death of the insured, the Ceding Company and the Reinsurance Company shall share in such increase or reduction in proportion to their respective liabilities under such policy.

**Premium-  
waiver  
Claims**

If a claim is approved under waiver-of-premium benefit on a policy reinsured on the yearly-renewable-term plan, the Ceding Company shall continue to pay the premiums for reinsurance except the premium for disability reinsurance, and the Reinsurance Company shall pay its pro rata portion of the premium waived on the original policy, including the premiums for benefits that remain in effect during disability.

**Recapture—  
Increase in  
Retention  
Limits**

ARTICLE XIV. The reinsurance granted by the Reinsurance Company hereunder shall be maintained in force by the Ceding Company as long as the insurance issued by the Ceding Company upon the same risk shall remain in force. However, if the Ceding Company shall increase its limit of retention, a corresponding reduction may be made at the option of the Ceding Company in the reinsurance in force under this contract on all lives on which the Ceding Company had its maximum limit of retention at the time reinsurance was ceded, provided that the reinsurance under this agreement shall not be so reduced before the end of the \_\_\_\_\_ policy year.

In order to effect such reduction, the Ceding Company shall, within a reasonable time from the effective date of such increase in retention for new issues, give written notice to the Reinsurance Company of such increase in retention, and upon the anniversary date next following, such reinsurance shall be reduced by such an amount in each case as will increase the amount of total insurance to be carried by the Ceding Company at its own risk to its new maximum; but if any policy of reinsurance is so reduced, all policies or reinsurance issued hereunder shall be similarly reduced. If there is reinsurance in other companies on such risks, the necessary reduction shall be applied pro rata to the total outstanding reinsurance.

**Policy  
Changes**

ARTICLE XV. If any change is made in any reinsured policy issued by the Ceding Company, the Reinsurance Company shall immediately be notified of such change. The rules of the Ceding Company governing changes in policy contracts which affect reinsured policies shall be accepted as satisfactory by the Reinsurance Company.

**Extended or  
Paid-up  
Insurance**

ARTICLE XVI. Should a policy reinsured in the Reinsurance Company lapse and extended term or paid-up insurance be granted in accordance with the provisions of the policy and the rules of the Ceding Company, the certificate of reinsurance shall be exchanged for a new certificate for the Reinsurance Company's proportionate share in the risk.

**Oversights**

ARTICLE XVII. If nonpayment of premiums within the time specified, or failure to comply with any of the terms of the contract, is shown to be unintentional and the result of misunderstanding or oversight on the part of either the Ceding Company or the Reinsurance Company, this agreement shall not be deemed abrogated thereby, but both the Ceding Company and the Reinsurance Company shall be restored to the position they would have occupied had no such oversight or misunderstanding occurred

**Inspection  
of Records**

ARTICLE XVIII. The Reinsurance Company shall have the right at all reasonable times and for any reasonable purpose to inspect at the office of the Ceding Company all books and documents referring to reinsurance issued by the Reinsurance Company.

**Arbitration**

ARTICLE XIX. In the event of any difference arising hereafter between the contracting parties with reference to any transaction under this agreement, the same shall be referred to three arbitrators who must be executive officers of life-insurance companies, each of the contracting companies to appoint one of the arbitrators and such two arbitrators to select the third. Should the two arbitrators not be able to agree on the choice of the third, then the appointment shall be left to the President of the American Life Convention.

The arbitrators so chosen shall consider this reinsurance agreement not merely as a legal document but also as a gentlemen's agreement and are not bound by any rules of law. They shall decide by a majority of votes, and from their written decision there can be no appeal. The cost of arbitration, including the fees of the arbitrators, shall be borne equally by the Reinsurance Company and the Ceding Company.

**Parties to  
Agreement**

ARTICLE XX. This is an agreement solely between the Ceding Company and the Reinsurance Company. The acceptance of reinsurance hereunder shall not create any right or legal relation whatever between the Reinsurance Company and the insured or the beneficiary under any policies of the Ceding Company which may be reinsured hereunder.

**Insolvency**

ARTICLE XXI. In the event of the insolvency of the Ceding Company, all reinsurance made, ceded, renewed, or otherwise becoming effective under this agreement shall be payable by the Reinsurance Company directly to the Ceding Company or to its liquidator, receiver, or statutory successor on the basis of the liability of the Ceding Company under the contract or contracts reinsured without diminution because of the insolvency of the Ceding Company. It is understood, however, that, in the event of the insolvency of the Ceding Company, the liquidator or receiver or statutory successor of the insolvent Ceding Company shall give written notice of the pendency of a claim against the insolvent Ceding Company on the policy reinsured within a reasonable time after such claim is filed in the insolvency proceeding and that during the pendency of such claim the Reinsurance Company may investigate such claim and interpose, at its own expense, in the proceeding

where such claim is to be adjudicated any defense or defenses which it may deem available to the Ceding Company or its liquidator or receiver or statutory successor.

It is further understood that the expense thus incurred by the Reinsurance Company shall be chargeable, subject to court approval, against the insolvent Ceding Company as part of the expense of liquidation to the extent of a proportionate share of the benefit which may accrue to the Ceding Company solely as a result of the defense undertaken by the Reinsurance Company. Where two or more assuming insurers are involved in the same claim and a majority in interest elects to interpose defense to such claim, the expense shall be apportioned in accordance with the terms of the reinsurance agreement as though such expense had been incurred by the Ceding Company.

#### **Duration of Agreement**

ARTICLE XXII. This agreement shall be unlimited in its duration but may be canceled at any time, in so far as it pertains to the handling of new business thereafter, by either party giving ninety (90) days' notice of cancellation in writing. The Reinsurance Company shall continue to accept reinsurance during the ninety (90) day period aforesaid and shall remain liable on all reinsurances granted under this agreement until the termination or expiry of the insurance reinsured.

IN WITNESS WHEREOF, the Ceding Company and the Reinsurance Company have caused their names to be subscribed hereunder by their respective Presidents or Vice Presidents and duly attested by their respective Secretaries or Assistant Secretaries.

\_\_\_\_\_  
INSURANCE COMPANY

By \_\_\_\_\_

President

Attest: \_\_\_\_\_

Secretary

\_\_\_\_\_  
REINSURANCE COMPANY

By \_\_\_\_

President

Attest: \_\_\_\_\_

Secretary





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